

From ddillman at igc.org Fri Jul 1 18:00:23 2016
From: ddillman at igc.org (Richard Dillman)
Date: Fri, 1 Jul 2016 15:00:23 -0700 (GMT-07:00)
Subject: [BoatAnchors] FS: Military AN/TXC-1 FAX Machine
Message-ID: <14702518.1467410423874.JavaMail.wam@elwamui-cypress.atl.sa.earthlink.net>

My AN/TXC-1 military FAX machine is for sale. This is the machine that won first prize at the Military Radio Collectors Group meet in San Luis Obispo, CA a few years ago. I believe it to be one of the very few if not the only complete and working AN/TXC-1 systems in the world.

This remarkable machine sends and receives FAX transmissions in the format still used for transmitting ocean weather maps by nations around the world including the US. Recording is accomplished by causing a high voltage spark to jump from a stylus through the special paper to the drum beneath. The spark burns off the white top layer on the paper and reveals the black layer beneath. It is quite impressive to see in action!

The system on offer includes the AN/TXC-1, power supply, converter, correct table and correct loudspeaker, interconnecting cables and canvas cover. All are in excellent condition.

Also included is an almost full box of the special paper needed for reception.

The original manuals for all items are included.

Much more information about this system may be found on line.

Location: San Francisco

Shipping: Not available, pickup only.

Price: \$350 for all

Further details: Please contact off line

Regards,

RD

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Richard Dillman
Maritime Radio Historical Society
<http://www.radiomarine.org>
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From zengmeiste at aol.com Mon Jul 4 14:09:59 2016
From: zengmeiste at aol.com (Jammer)
Date: Mon, 4 Jul 2016 14:09:59 -0400
Subject: [BoatAnchors] \$33K for a pair of these wonderfully crafted,
almost artistic, amps. Wow!
In-Reply-To: <mailman.1637.1467410454.226.boatanchors@theporch.com>
References: <mailman.1637.1467410454.226.boatanchors@theporch.com>
Message-ID: <155b71a42f5-15e2-10003@webprd-m11.mail.aol.com>

Hmm. One for the den, one for the theatre room, one each for the bedrooms.
One for the pool area, one for the garage. One portable for glamping expeditions.
And two or three spares. Just in case.

Great stocking-stuffers!

I expect the Bluetooth- / digitally-enabled units will be much more expensive.

I bet there's no chance whatsoever they're going to offer it in kit form,
though. :(
That's a downer.

Happy Independence Day. Be safe, watch the fireworks on your SUHD.

73 de KC9KEL Terry Bakowski

From gumbear at pacbell.net Tue Jul 5 17:17:57 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Tue, 5 Jul 2016 14:17:57 -0700
Subject: [BoatAnchors] [ARC5] roller inductor cleaning
In-Reply-To: <54966f40-85df-4940-57a1-c894f8c8a3b4@ix.netcom.com>
References: <602BEB8167614079B2DEE4457573836F@Laptop>
<54966f40-85df-4940-57a1-c894f8c8a3b4@ix.netcom.com>
Message-ID: <32A2ECCEB29546E7B618A2A549C0625F@Lenovo>

> I don't have an absolute answer but I think these rollers were
silver plated. Silver oxide is a good conductor but silver sulfide is
not and they look much the same. Both can be removed by a tarnish
remover like TarnX. Wipe the surface and rinse thoroughly. Also make
sure the roller and the shaft it runs on are clean. On more modern
antenna tuners with roller inductors I have found running them dry is
best although a thin coat of Vaseline will protect them from future
oxidation or sulfurizing. The Vaseline can be cleaned off easily with
some naphtha if it doesn't work.

Expanding on Dr. Knoppow's good advice I want to suggest a bit of caution:
Not too long ago I had what for a while seemed an insurmountable problem

with a heavily tarnished multi-wafer band switch. I went to the extreme of purchasing a bottle of Tarn-X after after trying to learn how it worked. The only problem was I wasn't confident that the Tarn-X could be entirely removed from the wafer which could possibly lead to problems with insulation leakage and drift problems due to altered dielectric constant, so I didn't use it. That wouldn't be such a problem with a roller inductor I hope. In the process I learned that although tarnish seems to be tough it actually is susceptible to mechanical removal without unnecessary incidental damage to the silver plating. My problem was solved by not giving up on the tried and cussed procedure of rotating the switch many times while liberally applying a good quality lubricating contact cleaner. So with those thoughts in mind I suggest applying Tarn-X to the track side of the conductor with a cotton swab and, as the instructions state, removing the Tarn-x after a short period, applying a lubricating contact leaner, and then testing for improved continuity. I doubt it would be a one step process so don't get too frustrated if it seems too repetitive to do it over and over again until reliable contacting is established. Let us know what works.

Arden Allen
KB6NAX

He who is cruel to animals becomes
hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.
?Immanuel Kant

From mike_25-z at aafradio.org Tue Jul 5 18:20:33 2016
From: mike_25-z at aafradio.org (aafradio)
Date: Tue, 5 Jul 2016 18:20:33 -0400
Subject: [BoatAnchors] [ARC5] roller inductior cleaning
In-Reply-To: <32A2ECCEB29546E7B618A2A549C0625F@Lenovo>
References: <602BEB8167614079B2DEE4457573836F@Laptop>
<54966f40-85df-4940-57a1-c894f8c8a3b4@ix.netcom.com>
<32A2ECCEB29546E7B618A2A549C0625F@Lenovo>
Message-ID: <13348988-177b-2dee-209e-a05ce09889f4@aafradio.org>

A few years ago one of our broadcast engineer list members (Bobbi Barmore) wrote about her careful microscopic examination of silver contacts and coils after using both Tarn-X and silver polish - I don't recall the type - perhaps Hagarty's. Under a microscope, she said that the Tarn-X produced sort of an etched honeycomb structure, and the significant extra surface area exposed to the atmosphere led to more rapid tarnishing after it was rinsed off. I had already empirically noticed the difference between the two products when I read her post, so

it was a no-brainer - I have never used the Tarn-X since. Hargarty's or similar products will do a beautiful job on a command set roller inductor, and it will last, even here in central Virginia farm country. You do have to remove the inductor to do a decent job, though...there ain't no free lunch.

I agree with Richard's suggestion of Vaseline as a protectant, if it's needed in your particular environment.

73,
Mike KC4TOS

On 7/5/2016 5:17 PM, Arden Allen via BoatAnchors wrote:

>> I don't have an absolute answer but I think these rollers were
> silver plated. Silver oxide is a good conductor but silver sulfide is
> not and they look much the same. Both can be removed by a tarnish
> remover like TarnX. Wipe the surface and rinse thoroughly. Also make
> sure the roller and the shaft it runs on are clean. On more modern
> antenna tuners with roller inductors I have found running them dry is
> best although a thin coat of Vaseline will protect them from future
> oxidation or sulfurizing. The Vaseline can be cleaned off easily with
> some naphtha if it doesn't work.
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> Expanding on Dr. Knoppow's good advice I want to suggest a bit of
> caution: Not too long ago I had what for a while seemed an
> insurmountable problem with a heavily tarnished multi-wafer band
> switch. I went to the extreme of purchasing a bottle of Tarn-X after
> after trying to learn how it worked. The only problem was I wasn't
> confident that the Tarn-X could be entirely removed from the wafer
> which could possibly lead to problems with insulation leakage and
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> it. That wouldn't be such a problem with a roller inductor I hope.
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> instructions state, removing the Tarn-x after a short period, applying
> a lubricating contact leaner, and then testing for improved
> continuity. I doubt it would be a one step process so don't get too
> frustrated if it seems too repetitive to do it over and over again
> until reliable contacting is established. Let us know what works.

From ddillman at igc.org Wed Jul 6 16:49:40 2016

From: ddillman at igc.org (Richard Dillman)
Date: Wed, 6 Jul 2016 13:49:40 -0700 (GMT-07:00)
Subject: [BoatAnchors] Night of Nights 2016 Coming up 12 July!
Message-ID: <28624559.1467838180885.JavaMail.wam@elwamui-karabash.atl.sa.earthlink.net>

The MRHS big annual event called Night of Nights is coming up on 12 July.

Join us on the air or in person at the RCA receive site in Point Reyes, CA as we originate stations KPH, KFS and KSM from our transmit site in Bolinas. WLO in Mobile, AL and USCG stations NMC, NMW and NMQ will be on the air as well.

All the details are in Newsletter No. 55, just published. Also read details about the magnificent R3 diversity receiver and the enigmatic H over 2 antenna. Get it all at:

<http://archive.constantcontact.com/fs149/1109843077277/archive/1125181891561.html>

VY 73,

RD

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Richard Dillman
Maritime Radio Historical Society
<http://www.radiomarine.org>
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From 1oldlens1 at ix.netcom.com Wed Jul 6 21:08:42 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Wed, 6 Jul 2016 18:08:42 -0700
Subject: [BoatAnchors] Fwd: Re: [ARC5] roller inductor cleaning
In-Reply-To: <70d26bae-fd74-4945-8f61-a559dcdb21ce@ix.netcom.com>
References: <70d26bae-fd74-4945-8f61-a559dcdb21ce@ix.netcom.com>
Message-ID: <db1e3584-c3a3-01fe-2463-9d0036411eae@ix.netcom.com>

----- Forwarded Message -----
Subject: Re: [ARC5] roller inductor cleaning
Date: Tue, 5 Jul 2016 15:06:24 -0700
From: Richard Knoppow <1oldlens1 at ix.netcom.com>
To: Arden Allen <gumbear at pacbell.net>, Old Tube Radios (new) <boatanchors at minime.theporch.com>

There are several tarnish removers on the market. All make use of a reducing agent that tends to convert oxides back to the original metal. TarnX uses thiourea and sulfamic acid. Another is Barkeeper's Friend which uses oxalic acid (Zud is the same), another is Naval Jelly which uses phosphoric acid. They are about the same in effect. Barkeeper's Friend is a powder but a liquid or paste version is available. I think all three contain a mild abrasive so I would avoid them for this application. All three must be thoroughly rinsed off.

About switch wafers: I tested the effect of some cleaners on phenolic insulation using a General Radio megohm meter. This meter can discriminate between 100 million megohms and infinity. I tried Deoxit D-5 and a couple of common solvents but don't have my notes. I used a Bakelite insulated terminal strip as my experimental object. This was unused and was brown Bakelite. I measured the leakage resistance before cleaning and after each cleaning with ample allowance for drying. I measured again about two days later. The D-5 had no effect on the leakage after drying but the solvents made it go up, i.e. the insulation resistance went down. So, I am confident that Deoxit works OK on switches but would avoid some solvents. I may do this test again with a variety of cleaners and also testing Vaseline and a clear silicone jelly lubricant. I have used Vaseline on many switches to prevent oxidation after cleaning with Deoxit and found it does protect them for a considerable time. I used it because of an article in an old Boonton Radio Notebook which recommended it for use on the oscillator turret contacts of the Q-Meter and RX-Meter. I used it on both of mine after cleaning with Deoxit and it eliminated the intermittent operation of the oscillator in both. Tuner-Lub (I think that's the correct spelling) made by General Cement is petroleum jelly (same as Vaseline) with a small amount of an anti-oxidant in it. I think the anti-oxidant is there more to prevent the stuff from yellowing than to protect contacts but it works fine although I think no better than Vaseline. I am not sure about using Vaseline on the roller inductor because arcing may cause it to burn. However, it can be wiped off and cleaned off completely using naphtha (lighter fluid) so may be worth trying.

Note that silver oxide is black and looks awful but is very nearly as good a conductor as metallic silver. Silver sulfide also looks black (sometimes brown) and is a poor conductor. Unfortunately, you can't tell them apart by appearance.

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Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From 1oldlens1 at ix.netcom.com Wed Jul 6 21:09:40 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)

Date: Wed, 6 Jul 2016 18:09:40 -0700
Subject: [BoatAnchors] Fwd: Re: [ARC5] roller inductior cleaning
In-Reply-To: <533cd45f-93e7-3224-74a5-4d79fba8ffef@ix.netcom.com>
References: <533cd45f-93e7-3224-74a5-4d79fba8ffef@ix.netcom.com>
Message-ID: <3661d794-69fb-e490-03a1-62179e8e8d76@ix.netcom.com>

----- Forwarded Message -----

Subject: Re: [BoatAnchors] [ARC5] roller inductior cleaning
Date: Tue, 5 Jul 2016 15:42:08 -0700
From: Richard Knoppow <1oldlens1 at ix.netcom.com>
To: boatanchors at theporch.com

I have to guess that the TarnX is dissolving the oxides and leaving pits. I looked up Hagerty and found they make a variety of products. The silver dip and silver bath both contain thiourea and phosphoric acid. The silver polish is diatomaceous earth in a xylene carrier. The polish might leave a smoother finish than the oxide removers. Diatomaceous earth is a very mild abrasive. There is another method of removing silver oxide by using a reaction between aluminum and silver in an alkaline bath. The aluminum can be plain aluminum foil and the alkali baking soda. The aluminum and the object to be cleaned are immersed in a hot solution of baking soda and water. The problem is the need for immersion since a roller inductor is large and would have to be removed from the chassis. This works well for silver plated connectors and other small parts.

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Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From venchant at hotmail.com Thu Jul 7 13:25:11 2016
From: venchant at hotmail.com (Venchant .)
Date: Thu, 7 Jul 2016 12:25:11 -0500
Subject: [BoatAnchors] Tarn-X and other silver cleaners
In-Reply-To: <mailman.1756.1467902325.226.boatanchors@theporch.com>
References: <mailman.1756.1467902325.226.boatanchors@theporch.com>
Message-ID: <BAY177-W1798F5184716E9FFF6F17EC23B0@phx.gbl>

Just a comment to be careful using silver cleaners, decades ago I had (still have) an SB-301 that had a very intermittent bandswitch. I applied a silver cleaner (possibly Tarn-X) and found that the silver plating on the bandswitch wafers was very thin, and leaving the cleaner on removed ALL of the thin silver plating leaving me with a fairly useless bandswitch. I still keep the unit as it was 80%

converted to solid state

(kept the tube LMO) and had a very sweet adjustable hang IF/AGC system using pre and post xtal filters for 2100 and 400 hz BW, MC1590's doing the gain and gain control for SSB and CW. That IF strip was constructed on a prototype breadboard hot-melt glued to the bottom of the chassis. It's still there. Probably going to end up as a parts unit or pick up for cheap unit along with about 75 other BA's that I won't be able to restore as planned in my retirement projects.

Happy restoring! I still love this list after decades of reading. Have most all digests except the first few. - Mark K9TR

From gumbear at pacbell.net Fri Jul 8 01:07:12 2016

From: gumbear at pacbell.net (Arden Allen)

Date: Thu, 7 Jul 2016 22:07:12 -0700

Subject: [BoatAnchors] Zero Beat Question

In-Reply-To: <577F1A38.21642.1BF40131@kgordon2006.frontier.com>

References: <7719ff01-3065-fdf4-d38f-7dd50b3f8438@ix.netcom.com>,

<577F0B57.1696.1BB9E1FB@kgordon2006.frontier.com>,

<26657A46C34744E9AA2E92273C559C07@BrianPC>

<577F1A38.21642.1BF40131@kgordon2006.frontier.com>

Message-ID: <F637B6C1C7F944C59DDE3A45A1F142F8@Lenovo>

Zero Beaters,

This has been a great discussion of technique for calibrating receivers, VFO's, sig gens and the such. But I was wondering when someone would mention the S meter method. As you approach zero beat the S meter starts waving at you when you are within about ten Hz of zero beat. That is plenty close enough for calibrating sig gens but a bit closer is needed for carrier insertion for exalted carrier AM or SSB reception. That's when the pumping (waxing and waning) of the noise level is your last and best hope for obtaining an error free zero beat, if possible with the limitations of instability and drift to contend with. The only remaining problem with a "perfect" zero beat is whether you are exalting or canceling the carrier, i.e., phase aiding or phase canceling the carrier. The bottom line is that a "perfect" zero beat is not really a very practical solution in most cases. Conceivably one could build a phase discriminator into a setup and feed the output to a volt meter or oscilloscope and tune for optimum phase match as indicated by a DC voltage. Splitting Herz by the hairs, no?

Arden Allen

KB6NAX

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hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.

?Immanuel Kant

From gumbear at pacbell.net Fri Jul 8 18:01:27 2016

From: gumbear at pacbell.net (Arden Allen)

Date: Fri, 8 Jul 2016 15:01:27 -0700

Subject: [BoatAnchors] [ARC5] OT A BIT....What Do You Solder

With?--Thanks All

In-Reply-To: <57800A43.7070004@pacific.net>

References:

<1473102250.3327904.1467902718530.JavaMail.yahoo.ref@mail.yahoo.com><1473102250.33

27904.1467902718530.JavaMail.yahoo@mail.yahoo.com><1830665521.4041507.146800099016

5.JavaMail.yahoo@mail.yahoo.com>

<57800A43.7070004@pacific.net>

Message-ID: <86BE35E984CC4ADABBAF76A087CD3528@Lenovo>

> The two factors are the power of the iron AND it's thermal capacity. So a lower wattage larger tip iron can do a better job on parts that a very fine tip higher wattage iron.

Yes, indeed. Thermo dynamics is a branch of physics just as electrodynamics is. Think of the soldering iron tip as a capacitor. It?s not the amount of voltage that delivers the work, it?s the amount of charge stored in the capacitor. So it is with a soldering tip. It?s the amount of calories the tip contains that does the heating of a joint and melting of the solder. A higher temperature will cause things to happen faster but too high a temperature and the flux life is too short leading to oxidation of the metals before everything alloys properly. The three things to manage in soldering are the heat load v/s tip capacity, temperature, and timing. Also, good soldering technique assumes the correct type of flux core solder is being used and the metals to be alloyed together are reasonably free of oxidation and corrosion.

Arden Allen

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?Immanuel Kant

From john.shriver at gmail.com Fri Jul 8 19:28:51 2016

From: john.shriver at gmail.com (John Shriver)

Date: Fri, 8 Jul 2016 19:28:51 -0400

Subject: [BoatAnchors] [ARC5] OT A BIT....What Do You Solder

With?--Thanks All

In-Reply-To: <86BE35E984CC4ADABBAF76A087CD3528@Lenovo>

References: <1473102250.3327904.1467902718530.JavaMail.yahoo.ref@mail.yahoo.com>
<1473102250.3327904.1467902718530.JavaMail.yahoo@mail.yahoo.com>
<1830665521.4041507.1468000990165.JavaMail.yahoo@mail.yahoo.com>
<57800A43.7070004@pacific.net> <86BE35E984CC4ADABBAF76A087CD3528@Lenovo>
Message-ID: <3E94A892-5C33-4B0E-8AD6-0E2DBB99C03C@gmail.com>

Then the other approach is incredibly good coupling between the heating element and the tip. At the MIT Electronics Research Society (student group) in the 1970s, we had this neat little Antex soldering iron from England. The copper tip was integral with a slotted sleeve that completely surrounded the skinny little heating element. It was maybe 20 watts, but it pulled far more than it's weight due to the very low series (thermal) resistance between the heating element and the tip.

Myself, I have a Weller solder station (WTCNP). Thermostatic control keeps the tip from self destructing. But the tips aren't copper, and are not as closely coupled to the heating element. So it's got series resistance, but it can have a lot of power (60 watts) without burning up the tip due to the thermostat. The iron and all the many tips came from the MIT Electronics Flea Market. There used to be a LOT of them used in local industry in the area.

When things get serious, I have an ancient 100 watt iron with a 1/4" diameter copper rod as the tip. That's for soldering to big chassis, and mostly for soldering HO scale streetcar trackage?

From spr at earthlink.net Fri Jul 8 21:08:28 2016
From: spr at earthlink.net (Scott Robinson)
Date: Fri, 8 Jul 2016 18:08:28 -0700
Subject: [BoatAnchors] [ARC5] OT A BIT....What Do You Solder
With?--Thanks All
In-Reply-To: <3E94A892-5C33-4B0E-8AD6-0E2DBB99C03C@gmail.com>
References: <1473102250.3327904.1467902718530.JavaMail.yahoo.ref@mail.yahoo.com>
<1473102250.3327904.1467902718530.JavaMail.yahoo@mail.yahoo.com>
<1830665521.4041507.1468000990165.JavaMail.yahoo@mail.yahoo.com>
<57800A43.7070004@pacific.net> <86BE35E984CC4ADABBAF76A087CD3528@Lenovo>
<3E94A892-5C33-4B0E-8AD6-0E2DBB99C03C@gmail.com>
Message-ID: <cd81329f-ac3f-582c-1aad-a063eba4fe99@earthlink.net>

Folks,

The thing that sets the Metcal apart is that the heat is generated not 2 inches back from the tip in a heating element but by eddy current losses in the iron alloy coating of the tip, right where the solder and all are. You get much more bang from 60W that way.

The most common Metcal (500 series) runs at 13.7 MHz.

The tip temperature is governed by the Curie point of the alloy; it is only lossy below that temperature. You get different tips for different temperatures, and 700 deg F works well for what I do.

I still have a nice, big Weller 250Watt solder gun for doing chassis or heavy gauge wire work.

Peace,

Scott

On 7/8/16 4:28 PM, John Shriver via BoatAnchors wrote:

> Then the other approach is incredibly good coupling between the heating element and the tip. At the MIT Electronics Research Society (student group) in the 1970s, we had this neat little Antex soldering iron from England. The copper tip was integral with a slotted sleeve that completely surrounded the skinny little heating element. It was maybe 20 watts, but it pulled far more than its weight due to the very low series (thermal) resistance between the heating element and the tip.

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>

>

> BoatAnchors mailing list

> BoatAnchors at theporch.com

> <https://minime.theporch.com/mailman/listinfo/boatanchors>

>

From ddillman at igc.org Sat Jul 9 15:36:52 2016

From: ddillman at igc.org (Richard Dillman)

Date: Sat, 9 Jul 2016 12:36:52 -0700 (GMT-07:00)

Subject: [BoatAnchors] Night of Nights 2016 - Updates & Corrections

Message-ID: <7976359.1468093012397.JavaMail.wam@elwamui-hybrid.atl.sa.earthlink.net>

Get the latest updated and corrected information for Night of Nights 2016 here:

<http://tinyurl.com/ja5cnex>

RD

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Richard Dillman
Maritime Radio Historical Society
<http://www.radiomarine.org>
=====

From gumbear at pacbell.net Sat Jul 9 21:26:09 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Sat, 9 Jul 2016 18:26:09 -0700
Subject: [BoatAnchors] [ARC5] OT A BIT....What Do You Solder
With?--Thanks All
In-Reply-To: <3E94A892-5C33-4B0E-8AD6-0E2DBB99C03C@gmail.com>
References: <1473102250.3327904.1467902718530.JavaMail.yahoo.ref@mail.yahoo.com>
<1473102250.3327904.1467902718530.JavaMail.yahoo@mail.yahoo.com>
<1830665521.4041507.1468000990165.JavaMail.yahoo@mail.yahoo.com>
<57800A43.7070004@pacific.net> <86BE35E984CC4ADABBAF76A087CD3528@Lenovo>
<3E94A892-5C33-4B0E-8AD6-0E2DBB99C03C@gmail.com>
Message-ID: <73AF3312C7F14C808016F1B1A6EC2721@Lenovo>

> Myself, I have a Weller solder station (WTCPN). Thermostatic
> control keeps the tip from self destructing. But the tips aren?t copper,
> and

Weller WTCP soldering tips are iron clad solid copper with a curie point slug at the base for actuation of the switch that applies power to the heater when the tip temperature drops below the curie point. The curie point is the temperature at which the slug loses its magnetic properties and the iron rod with a magnet at its base then cannot pull the switch closed. It's a simple and reliable method for temperature control that has been around since 1960 (or thereabouts). Later model Weller irons use a thermistor inside of the tip and an electronic servo to give faster response to temperature variations and allow the servo to be set for a chosen regulation point temperature. The iron cladding dissolves much more slowly than a bare copper tip allowing for greatly extended tip life. WTCP irons are still being manufactured by Weller because they have such a good history and many users don't care to switch to the improved tools. I have five WTCP stations, all having followed me home from swaps and a couple that beckoned me on the 'Bay.

Arden Allen
KB6NAX

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hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.
?Immanuel Kant

From ajamas.rn at gmail.com Sat Jul 9 22:52:09 2016
From: ajamas.rn at gmail.com (Katz Ajamas)
Date: Sun, 10 Jul 2016 02:52:09 +0000
Subject: [BoatAnchors] [ARC5] OT A BIT....What Do You Solder
With?--Thanks All
In-Reply-To: <73AF3312C7F14C808016F1B1A6EC2721@Lenovo>
References: <1473102250.3327904.1467902718530.JavaMail.yahoo.ref@mail.yahoo.com>
<1473102250.3327904.1467902718530.JavaMail.yahoo@mail.yahoo.com>
<1830665521.4041507.1468000990165.JavaMail.yahoo@mail.yahoo.com>
<57800A43.7070004@pacific.net> <86BE35E984CC4ADABBAF76A087CD3528@Lenovo>
<3E94A892-5C33-4B0E-8AD6-0E2DBB99C03C@gmail.com>
<73AF3312C7F14C808016F1B1A6EC2721@Lenovo>
Message-ID: <CA+kZa5q+GDu+N0wa3T_yo01fxM_NJu40xbTs_MBEMJbCY6tKQg@mail.gmail.com>

I dug an old edsyn 951SX out of the surplus bin a few months ago. It is
amazing. Heats from cold to dialed in temp within 30 seconds. Same iron can
handle SMT or big lugs in a BA with similar speed. I have not touched my
Wellers since.

Still use an old American Beauty for antenna work. It weighs a couple of
lbs and is temp controlled via a bimetallic strip in the holder.

73, -Bob ah7i/W4

From jerry7proc at yahoo.com Mon Jul 11 16:49:29 2016
From: jerry7proc at yahoo.com (Jerry Proc)
Date: Mon, 11 Jul 2016 20:49:29 +0000 (UTC)
Subject: [BoatAnchors] Teletype Ribbons
References: <1031381852.2089492.1468270169147.JavaMail.yahoo.ref@mail.yahoo.com>
Message-ID: <1031381852.2089492.1468270169147.JavaMail.yahoo@mail.yahoo.com>

Hello Everyone,

?

Twenty years ago I restored the RTTY system aboard the museum ship HMCS HAIDA. Part
of that process entailed the installation of ?modern? ribbons on the teleprinters ?
but due to incapability, the new spools had to be rewound onto the
original Teletype Corp spools.

Staples has a replacement ribbon but at \$10 a shot that's a bit pricey as three machines need to be dealt with. ?

?

Needless to say, the ink on the ribbons has nearly dried up. Does anyone have any tricks for rejuvenating typewriter ribbons? ?

?

??-- Regards, Jerry Proc E-mail: jerry7proc at yahoo.com

From gumbear at pacbell.net Mon Jul 11 17:22:42 2016

From: gumbear at pacbell.net (Arden Allen)

Date: Mon, 11 Jul 2016 14:22:42 -0700

Subject: [BoatAnchors] [ARC5] Zero Beat Question

In-Reply-To: <f48d706f-0967-e908-8d9a-625f27ac43b3@ix.netcom.com>

References: <7719ff01-3065-fdf4-

d38f-7dd50b3f8438@ix.netcom.com><577F0B57.1696.1BB9E1FB@kgordon2006.frontier.com><26657A46C34744E9AA2E92273C559C07@BrianPC><577F1A38.21642.1BF40131@kgordon2006.frontier.com><DM2PR03MB39768F460BCFFFA8D66A4FEAD3E0@DM2PR03MB397.namprd03.prod.outlook.com><446F5CF20BFB4BFFAAB26AF4846CD26E@miked62f059f40><B2EC44CA-91F7-4C5A-839A-DC29AE71D02E@gmail.com><c60c997f-6b93-29fb-dc45-81506d4c3673@ix.netcom.com><BLU178-W12BF7EEA1821AF27FC2B65F13F0@phx.gbl><99852A0311274E51ABF7FAF833D839B2@miked62f059f40>

<f48d706f-0967-e908-8d9a-625f27ac43b3@ix.netcom.com>

Message-ID: <625733C555F649D1B0ED6382C9A9F3D3@Lenovo>

> its common to hear an effect similar to selective fading on many
> stations at night.

That IS selective fading. Such occurs when the carrier, which is coherent, i.e., a single pure tone, is nulled by multipath phase cancellation that weakens the carrier if not completely nulling it. The sidebands need the full amplitude of the carrier to be completely demodulated in the receiver's detector. You can restore the carrier by turning on the BFO and zero beating it with the carrier. That only works well in receivers with low distortion mixing of the BFO and signal. Riding the RF gain control is the only way to minimize the distortion on pre-SSB receivers. But that ain't no fun!

Arden Allen
KB6NAX

He who is cruel to animals becomes
hard also in his dealings with men.

We can judge the heart of a man by
his treatment of animals.
?Immanuel Kant

From gumbear at pacbell.net Tue Jul 12 00:06:03 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Mon, 11 Jul 2016 21:06:03 -0700
Subject: [BoatAnchors] [ARC5] Zero Beat Question
In-Reply-To: <6e9e3ee2-fd7e-8719-1dd7-b85b3ef5963d@ix.netcom.com>
References: <7719ff01-3065-fdf4-d38f-7dd50b3f8438@ix.netcom.com>
<577F0B57.1696.1BB9E1FB@kgordon2006.frontier.com>
<26657A46C34744E9AA2E92273C559C07@BrianPC>
<577F1A38.21642.1BF40131@kgordon2006.frontier.com>
<DM2PR03MB39768F460BCFFFA8D66A4FEAD3E0@DM2PR03MB397.namprd03.prod.outlook.com>
<446F5CF20BFB4BFFAAB26AF4846CD26E@miked62f059f40>
<B2EC44CA-91F7-4C5A-839A-DC29AE71D02E@gmail.com>
<c60c997f-6b93-29fb-dc45-81506d4c3673@ix.netcom.com>
<BLU178-W12BF7EEA1821AF27FC2B65F13F0@phx.gbl>
<99852A0311274E51ABF7FAF833D839B2@miked62f059f40>
<f48d706f-0967-e908-8d9a-625f27ac43b3@ix.netcom.com>
<625733C555F649D1B0ED6382C9A9F3D3@Lenovo>
<6e9e3ee2-fd7e-8719-1dd7-b85b3ef5963d@ix.netcom.com>
Message-ID: <24982A3749D543298B52E46EDBBDFBBE@Lenovo>

> Because the phase lock works on the relative phase
of the sidebands of an AM signal the carrier can be completely absent.
.....

I question that, Rich. The sidebands are incoherent and spread over about
three to five kHz of spectrum on either side of the carrier. How would you
phase lock a BFO to a carrier that is totally absent? Perhaps someone has
developed a DSP solution that mathematically derives the carrier frequency
from the incoherent sidebands. Anyone know?

Arden Allen
KB6NAX

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his treatment of animals.
?Immanuel Kant

From wb3fau55 at neo.rr.com Tue Jul 12 16:58:15 2016

From: wb3fau55 at neo.rr.com (wb3fau55 at neo.rr.com)
Date: Tue, 12 Jul 2016 16:58:15 -0400
Subject: [BoatAnchors] R-390A- [ongoing repair project]
Message-ID: <20160712205815.0MKEI.62632.root@cdptpa-web05>

I have a '58 contract Motorola 390A. All modules are working, except a part of the RF section. So, right to the point- it will not receive below 8mc.

So what do I know? The 1st osc. 17mc has to function, I think it is as I can see 17mc at cathode of v 207.

I need suggestions and some coaching on this thanks guys. Russ wb3fau.

From wb3fau55 at neo.rr.com Wed Jul 13 18:02:16 2016
From: wb3fau55 at neo.rr.com (wb3fau55 at neo.rr.com)
Date: Wed, 13 Jul 2016 18:02:16 -0400
Subject: [BoatAnchors] R-390A project
Message-ID: <20160713220216.Z1UOW.78519.root@cdptpa-web05>

Guys, I have an ongoing 390A project, nearly complete. So I am down to no reception on the lower freqs. Specifically, .5 to 7mc. In these ranges, it is triple conversion, above 7mc, it is double conversion. So I do not seem to be getting that 1st stage. Anyone having good working knowledge of these receivers? I need some coaching on this. I know that 1st stage osc. operates at 17mc. I seem to have that, but still no reception on these bands. Thanks for your assistance. 73s Russ wb3fau.

From WA5CAB at cs.com Thu Jul 14 14:57:11 2016
From: WA5CAB at cs.com (WA5CAB at cs.com)
Date: Thu, 14 Jul 2016 14:57:11 -0400
Subject: [BoatAnchors] Manual for Wilcox CW3
Message-ID: <88ce96.36cd3eba.44b93a86@cs.com>

A guy from whom I've bought a few military radio TM's also has a manual for a Wilcox CW3 receiver. If anyone is interested, I think he wants about \$12.50 shipped for it. You can contact him at the CC address.

If more than one person is interested, I also have three of what I think are the same manual. But buy his first.

Robert Downs - Houston
wa5cab dot com (Web Store)
MVPA 9480

From WA5CAB at cs.com Thu Jul 14 15:41:14 2016
From: WA5CAB at cs.com (WA5CAB at cs.com)
Date: Thu, 14 Jul 2016 15:41:14 -0400

Subject: [BoatAnchors] Correction Re: Manual for Wilcox CW3
Message-ID: <88e48e.1d068165.44b944d9@cs.com>

Correction - he has the receiver and the manual. If anyone is interested in both, please contact Howard at the CC address. If anyone has one of the receivers and needs the manual, I do have a few of those extra.

Robert Downs - Houston
wa5cab dot com (Web Store)
MVPA 9480

From gsantacana at gmail.com Thu Jul 14 16:04:09 2016
From: gsantacana at gmail.com (Guido Santacana)
Date: Thu, 14 Jul 2016 16:04:09 -0400
Subject: [BoatAnchors] R390A is back
Message-ID: <01CD1EA5-92F3-44EA-A3C2-8300CD413891@gmail.com>

At long last and after 17 years of absence an R390A arrived in the shack! The unit has not been turned on in years but is complete and is an EAC. It was just an hour drive from home. Now we start the slow process of bringing it back to life. It is a happy day.

73s

Guido Santacana KP4FAR

Sent from my iPhone

From wb0eq at yahoo.com Thu Jul 14 21:46:35 2016
From: wb0eq at yahoo.com (John Sehring)
Date: Fri, 15 Jul 2016 01:46:35 +0000 (UTC)
Subject: [BoatAnchors] [ARC5] Zero Beat Question
References: <1374227641.3564756.1468547195556.JavaMail.yahoo.ref@mail.yahoo.com>
Message-ID: <1374227641.3564756.1468547195556.JavaMail.yahoo@mail.yahoo.com>

The sidebands of an AM signal are certainly coherent. They need to be.

Each one (upper & lower sidebands are mirror images of the other in the frequency domain. When they aren't, such as when selective fading is present, the result is a distorted AM signal. Missing/weak carrier & you've got a huge mess. A phasor analysis will quickly show why.

One way of generating a phase-locked substitute carrier is to square the sidebands, apply some magic math, voila!

Bob Sherwood's "synchronous" AM detector does its thing using a phase-locked loop.
--John Sehring VE6EQR-WB0EQ nr Calgary, Alberta, Canada

From gumbear at pacbell.net Fri Jul 15 04:52:30 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Fri, 15 Jul 2016 01:52:30 -0700
Subject: [BoatAnchors] QRe: [ARC5] Zero Beat Question
In-Reply-To: <1374227641.3564756.1468547195556.JavaMail.yahoo@mail.yahoo.com>
References: <1374227641.3564756.1468547195556.JavaMail.yahoo.ref@mail.yahoo.com>
<1374227641.3564756.1468547195556.JavaMail.yahoo@mail.yahoo.com>
Message-ID: <8D67DD546DB7479CBC50D218C142D6AF@Lenovo>

> The sidebands of an AM signal are certainly coherent. They need to be.
>

OK, I'm no math whiz but I try to use common logic. As described in the Costas paper (thank you, Richard Knoppow) a quadrature synchronous detector can be made to provide a reinsertion carrier with only the side bands of a DSB signal, no pilot carrier. When the regenerated carrier is at zero phase with respect to the original (suppressed) carrier there is no output from the Q (quadrature) detector, all the output is coming from the I (in phase) detector. The carrier is servo locked in phase as long as there is modulation. No modulation, no nothing is received, the only thing that keeps the IQ detector working is hopefully the carrier oscillator does not drift too much before modulation resumes. Noise such as from electrical storms conceivably could cause the carrier to be dislodged from zero phase. So what it boils down to, IMO, is the only coherence that exists is when both sidebands are of equal quality which because of transmitter passband limitations may prove difficult to achieve. A practical system will obviously recover useful audio because the system is locked to the average but imperfect phase relationship of the sidebands. Sidebands are composed of a multitude of frequencies whose phasors are rotating at different speeds. Playing with averages does not sound like coherence to me. Does it matter if we take license with the term "coherence"? Any opinions?

Arden Allen
KB6NAX

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hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.
?Immanuel Kant

From 1oldlens1 at ix.netcom.com Thu Jul 14 16:07:06 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Thu, 14 Jul 2016 13:07:06 -0700
Subject: [BoatAnchors] Teletype Ribbons
Message-ID: <b813da8d-c551-4775-540f-65e174b99c53@ix.netcom.com>

Try Jay Repsler at <http://abmco.webs.com/>
or Baco, Baco does not seem to have a web site but contact
information is:

Baco Ribbon & Supply Co
2230 Mason Lane
Ballwin, MO 63021
Phone: (314) 835-9300

I've gotten ribbons from both and they are both reliable and have
good quality products.

Some people rejuvenate ribbons but I am not sure how well that
works. New ones are not that expensive. Reuse the old spools. If you
use a LOT of ribbons you can buy the stuff in bulk.

--

Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From gsantacana at gmail.com Sat Jul 16 00:56:36 2016
From: gsantacana at gmail.com (Guido Santacana)
Date: Sat, 16 Jul 2016 00:56:36 -0400
Subject: [BoatAnchors] R390A report
Message-ID: <CA01yix3zDb5Qsk5fZaDBPoKT+_K8vFEe=-EXz7bZ-5qvaAkKA@mail.gmail.com>

I did the first general checkup of the R390A. It is a complete EAC unit.
Nothing is missing. All tubes are there even the 3TF7. After checking the
power transformer I removed the 26Z5 rectifiers and applied exactly 110VAC
from a Variac. All filaments lighted up and the transformed kept cool. I
will not test it with the B+ on until I change the "caps" in the IF module.
The can electrolytics in the power supply test ok in the ESR meter but
readings from a good Cap meter show about 5uF up from the normal. I am
thinking of replacement. One thing is for sure, the whole thing needs a
good cleaning. According to the former owner, he obtained this receiver as
part of a trade but never operated it for almost 30 years. Luckily he kept
it in the shack and not in some backyard shed. I already dugged out the
maintenance manual so the project has started. One thing to scratch out of
my bucket list.

73s

Guido Santacana KP4FAR

From WA5CAB at cs.com Sat Jul 16 02:25:20 2016
From: WA5CAB at cs.com (WA5CAB at cs.com)
Date: Sat, 16 Jul 2016 02:25:20 -0400
Subject: [BoatAnchors] R390A report
Message-ID: <2fe091.4463eee.44bb2d4f@cs.com>

I wouldn't sweat +5 ufd. I have seen electrolytics from the 1950's and 1960's marked +50% - 20%.

In a message dated 07/15/2016 23:57:15 PM Central Daylight Time, boatanchors at theporch.com writes:
> The can electrolytics in the power supply test ok in the ESR meter but
> readings from a good Cap meter show about 5uF up from the normal. I am
> thinking of replacement.

Robert Downs - Houston
wa5cab dot com (Web Store)
MVPA 9480

From 1oldlens1 at ix.netcom.com Sat Jul 16 03:27:54 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sat, 16 Jul 2016 00:27:54 -0700
Subject: [BoatAnchors] R390A report
In-Reply-To: <2fe091.4463eee.44bb2d4f@cs.com>
References: <2fe091.4463eee.44bb2d4f@cs.com>
Message-ID: <8c965481-c745-f669-779f-43114a6dac5a@ix.netcom.com>

This is the point I tried to make in my post. I think the reason for the wide variation is that the capacitance depends on the history of the capacitor, that is, how much time has it spent with voltage on it and how much voltage. The nature of the dielectric is that its thickness depends on the flow of current in the cap. So the marked value is only approximate so a range is given over which the cap can be considered to be "normal". Modern electrolytics seem to stay closer to their nominal value, perhaps because the chemistry of the dielectric is somewhat different. of course, the main virtue of an electrolytic is that you can squeeze a lot of capacitance in a small space.

On 7/15/2016 11:25 PM, Robert Downs WA5CAB via BoatAnchors wrote:
> I wouldn't sweat +5 ufd. I have seen electrolytics from the 1950's and
> 1960's marked +50% - 20%.

--

Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From spr at earthlink.net Sat Jul 16 00:39:03 2016
From: spr at earthlink.net (Scott Robinson)
Date: Fri, 15 Jul 2016 21:39:03 -0700
Subject: [BoatAnchors] QRe: [ARC5] Zero Beat Question
In-Reply-To: <8D67DD546DB7479CBC50D218C142D6AF@Lenovo>
References: <1374227641.3564756.1468547195556.JavaMail.yahoo.ref@mail.yahoo.com>
<1374227641.3564756.1468547195556.JavaMail.yahoo@mail.yahoo.com>
<8D67DD546DB7479CBC50D218C142D6AF@Lenovo>
Message-ID: <54cd8515-9ed9-d50a-4e8e-3bf30435d3e9@earthlink.net>

Hi Arden,

Experience with these circuits in modern commercial receivers (Lowe HF-150 and many Grundig and Sony portables, for instance) is that they do work and considerably improve reception.

But as I said earlier, fast attack/slow decay AVC is very helpful, too, and much simpler to add.

/Scott Robinson

On 7/15/16 1:52 AM, Arden Allen via BoatAnchors wrote:
>> The sidebands of an AM signal are certainly coherent. They need to
>> be.
>
> OK, I'm no math whiz but I try to use common logic. As described in the
> Costas paper (thank you, Richard Knoppow) a quadrature synchronous
> detector can be made to provide a reinjection carrier with only the side
> bands of a DSB signal, no pilot carrier.

From wb0eq at yahoo.com Sat Jul 16 22:13:33 2016
From: wb0eq at yahoo.com (John Sehring)
Date: Sun, 17 Jul 2016 02:13:33 +0000 (UTC)
Subject: [BoatAnchors] [ARC5] Zero Beat Question
References: <1296906817.422824.1468721613045.JavaMail.yahoo.ref@mail.yahoo.com>
Message-ID: <1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>

If the sidebands of an "AM" signal are not closely the same, you'll get distortion.

In fact you'll see residual (spurious) phase modulation on it.

In the extreme case of full carrier & only one complete sideband, the distortion is plainly audible (& objectional to my ears).

You can simulate this by tuning in an AM signal using a sharp 3 kHz filter. Place the carrier toward the edge of the filter allowing only one sideband thru. You'll hear the crud! (I wrote an article on just this subject for Electric Radio a few years ago.)

The combo of AM & FM produces a horrible sounding signal.

The FCC's ancestor decreed in 1930s that the FMing be minimized.

That's why carrier deviation meters appeared on AM broadcast transmitters.

The Costas (G.E.) system used both sidebands, to confer a kind spread spectrum & jamming advantage in that the sidebands were the same and that redundancy could be exploited. The theory was & is sound but the receiver was a nightmare as sufficient technology was not there at that time to make it practical-- (mid-1950s)--but it is now.

So G.E. lost out to SSB by Collins.

--John Sehring VE6EQR-WB0EQ nr Calgary, Alberta, Canada

From wlfuqu00 at uky.edu Sat Jul 16 22:22:11 2016
From: wlfuqu00 at uky.edu (Fuqua, Bill L)
Date: Sun, 17 Jul 2016 02:22:11 +0000
Subject: [BoatAnchors] QRe: [ARC5] Zero Beat Question
In-Reply-To: <8D67DD546DB7479CBC50D218C142D6AF@Lenovo>
References: <1374227641.3564756.1468547195556.JavaMail.yahoo.ref@mail.yahoo.com>
<1374227641.3564756.1468547195556.JavaMail.yahoo@mail.yahoo.com>,
<8D67DD546DB7479CBC50D218C142D6AF@Lenovo>
Message-ID: <B7E8B5B4A202074084E2515A7B10A7F34F3DFB86@ex10mb02.ad.uky.edu>

There is a term used in physics, coherence length. That is the distance where the signal becomes dispersed and is no longer coherent. No signal is perfectly coherent, to be perfect it would have to existed an infinite amount of time and traveled an infinite distance.

73

Bill wa4lav

From: Arden Allen [gumbear at pacbell.net]
Sent: Friday, July 15, 2016 4:52 AM
To: John Sehring; Boatanchors List
Subject: [BoatAnchors] QRe: [ARC5] Zero Beat Question

> The sidebands of an AM signal are certainly coherent. They need to be.
>

OK, I'm no math whiz but I try to use common logic. As described in the Costas paper (thank you, Richard Knoppow) a quadrature synchronous detector can be made to provide a reinjection carrier with only the side bands of a DSB signal, no pilot carrier. When the regenerated carrier is at zero phase with respect to the original (suppressed) carrier there is no output from the Q (quadrature) detector, all the output is coming from the I (in phase) detector. The carrier is servo locked in phase as long as there is modulation. No modulation, no nothing is received, the only thing that keeps the IQ detector working is hopefully the carrier oscillator does not drift too much before modulation resumes. Noise such as from electrical storms conceivably could cause the carrier to be dislodged from zero phase. So what it boils down to, IMO, is the only coherence that exists is when both sidebands are of equal quality which because of transmitter passband limitations may prove difficult to achieve. A practical system will obviously recover useful audio because the system is locked to the average but imperfect phase relationship of the sidebands. Sidebands are composed of a multitude of frequencies whose phasors are rotating at different speeds. Playing with averages does not sound like coherence to me. Does it matter if we take license with the term "coherence"? Any opinions?

Arden Allen
KB6NAX

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?Immanuel Kant

From gumbear at pacbell.net Sat Jul 16 22:55:03 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Sat, 16 Jul 2016 19:55:03 -0700
Subject: [BoatAnchors] [ARC5] Zero Beat Question
In-Reply-To: <1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>
References: <1296906817.422824.1468721613045.JavaMail.yahoo.ref@mail.yahoo.com>
<1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>
Message-ID: <63C6AF237BE14FFA9BE45F207CE6D90D@Lenovo>

Hi John,

> If the sidebands of an "AM" signal are not closely the same, you'll get

> distortion.

> In fact you'll see residual (spurious) phase modulation on it.

That's reasonable if transmitter bandwidth imposes phase distortion on one or both sidebands to make them unequal.

> In the extreme case of full carrier & only one complete sideband, the
> distortion is plainly audible (& objectional to my ears).

This is not reasonable. May be a low amplitude carrier in transmitter that does not use plate modulation - or a receive problem.

> You can simulate this by tuning in an AM signal using a sharp 3 kHz
> filter. Place the carrier toward the edge of the filter allowing only one
> sideband thru. You'll hear the crud! (I wrote an article on just this
> subject for Electric Radio a few years ago.)

Sharp filters are hell on signals. I would like to know if theory says only one sideband cannot produce clean audio.

> The combo of AM & FM produces a horrible sounding signal.

That's due to receiver bandpass phase distortion. You get a sort of slope detection along with amplitude detection.

> The FCC's ancestor decreed in 1930s that the FMing be minimized.

> That's why carrier deviation meters appeared on AM broadcast transmitters.

That was to keep stations within channel, no channel slop. That and audio bandwidth limitation and modulation control to prevent splatter.

> The Costas (G.E.) system used both sidebands, to confer a kind spread
> spectrum & jamming advantage in that the sidebands were the same and that
> redundancy could be exploited. The theory was & is sound but the receiver
> was a nightmare as sufficient technology was not there at that time to
> make it practical--(mid-1950s)--but it is now.

I think a vacuum tube synchronous detection system could have been implemented in the 50's but the amount of electronics would double the size of a receiver. Couldn't have done the internet with tubes ;-)

Collins was a first class engineer and hands on manager. Not many of those in American corporate annals.

Arden Allen
KB6NAX

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hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.
?Immanuel Kant

From w3nu at roadrunner.com Sun Jul 17 01:56:03 2016
From: w3nu at roadrunner.com (Charles Ring)
Date: Sun, 17 Jul 2016 01:56:03 -0400
Subject: [BoatAnchors] [ARC5] Zero Beat Question
In-Reply-To: <63C6AF237BE14FFA9BE45F207CE6D90D@Lenovo>
References: <1296906817.422824.1468721613045.JavaMail.yahoo.ref@mail.yahoo.com>
<1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>
<63C6AF237BE14FFA9BE45F207CE6D90D@Lenovo>
Message-ID: <ca060a49-ef51-0f19-61cb-7feb16c3b530@roadrunner.com>

On 7/16/2016 22:55, Arden Allen via BoatAnchors wrote:
> Hi John,
>
>> If the sidebands of an "AM" signal are not closely the same, you'll
>> get distortion.
>
>> In fact you'll see residual (spurious) phase modulation on it.
>
> That's reasonable if transmitter bandwidth imposes phase distortion on
> one or both sidebands to make them unequal.
>
>> In the extreme case of full carrier & only one complete sideband, the
>> distortion is plainly audible (& objectional to my ears).
>
> This is not reasonable. May be a low amplitude carrier in transmitter
> that does not use plate modulation - or a receive problem.
>
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>> filter. Place the carrier toward the edge of the filter allowing
>> only one sideband thru. You'll hear the crud! (I wrote an article
>> on just this subject for Electric Radio a few years ago.)
>
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> slope detection along with amplitude detection.
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>> The FCC's ancestor decreed in 1930s that the FMing be minimized.
>
>> That's why carrier deviation meters appeared on AM broadcast
>> transmitters.
>
> That was to keep stations within channel, no channel slop. That and
> audio bandwidth limitation and modulation control to prevent splatter.
>
>> The Costas (G.E.) system used both sidebands, to confer a kind spread
>> spectrum & jamming advantage in that the sidebands were the same and
>> that redundancy could be exploited. The theory was & is sound but
>> the receiver was a nightmare as sufficient technology was not there
>> at that time to make it practical--(mid-1950s)--but it is now.
>
> I think a vacuum tube synchronous detection system could have been
> implemented in the 50's but the amount of electronics would double the
> size of a receiver. Couldn't have done the internet with tubes ;-)
>
> Collins was a first class engineer and hands on manager. Not many of
> those in American corporate annals.
>
> Arden Allen
> KB6NAX
>

Canadian time signal station CHU uses or used SSB with full carrier. Not
distorted at all.

One AM stereo broadcast method uses both sidebands, one for left channel
audio and the other for right. It was the Khan-Haselton system. Leonard
Kahn lacked the political clout to get it adopted by the FCC.

--
Charles Ring W3NU

From navy.radio at gmail.com Sun Jul 17 10:12:15 2016
From: navy.radio at gmail.com (Nick England)
Date: Sun, 17 Jul 2016 10:12:15 -0400
Subject: [BoatAnchors] Central Electronics Boatanchor Field Day and Swap Meet
Message-ID: <CAB55hNdtMJxL38NErDZgez+aX9qHSS-eT5f9gQOpY_yOMwbwfQ@mail.gmail.com>

See <http://www.ce-multiphase.com/>
for more info and photos from previous events -

The 4th annual CE Boatanchor Field Day and Swap Meet will be held, once again, at the QTH of W9DYV, in Jonesborough, TN on July 23rd until noon July 24th. (opening 8AM both days) Plan to attend and enjoy the beautiful 23-acre setting. Plenty of room for cars for tailgating, tents, and antennas! Presentations at the event will include the following ...

W5XU (Dave Assaf) - Adventure to VP8STI, South Sandwich Island
W9RAN (Bob Nickels) - The Hallicrafters FPM-200 Story
K5EF (Nick Tusa) - The Central Electronics Ivanhoe & Galahad Novice Rigs
K4NYW (Nick England) - SSB within the US Navy
K4OZY (John Poulton) - The TMC Corporation
K9IED (Bob Heil) - Better Sounding Audio
NU6X (Mark Mumaw) - The GE SSB-Jr and how it ignited Amateur SSB
W1LSB (George Maier) - Taming the CE-458 VFO
KG7TR (Mike Bohn) - Homebrew "Hollow-State" SSB Radios
K5LYN (Lynn Fisk) - The CE-20A/Hallicrafters SX-115 "Transceiver"
WA5UEK (Brian Harris) - The Cosmophone 35 & 1000

... and the following rigs will be on-site as part of these discussions ...

Hallicrafters FPM-200 Transceiver, circa 1959
Johnson Avenger HF/SSB Transceiver, circa 1960
Cosmophone 35 and 1000, circa 1958
Mike Bohn's Octalmania rigs, as presented in ER Magazine
W2EWL-style 'cheap and easy' 75M & 20M Homebrew Rigs
Mark Mumaw's Newly constructed GE SSB Jr
The Central Electronics Ivanhoe Prototype CW rigs
A 1951-era Central Electronics 10A Prototype
Drake TR-44B Integrated HF Station
Eico 720 Transmitter and Mosley M-1 Receiver
Lynn Fisk's CE 20A/SX-115 "Transceiver"
Complete/Restored Hallicrafters SR-2000 HF station and accessories
.... and many more surprises!

Contact Nick Tusa, K5EF via email to reserve your space (\$5/car or \$20/Field Day tent/antenna). nick.tusa at tusaconsulting.com
Food and soft drinks will be available.

Stay at one of the local B&B's or hotels.

From 1oldlens1 at ix.netcom.com Sat Jul 16 11:41:51 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sat, 16 Jul 2016 08:41:51 -0700
Subject: [BoatAnchors] QRe: [ARC5] Zero Beat Question
In-Reply-To: <54cd8515-9ed9-d50a-4e8e-3bf30435d3e9@earthlink.net>
References: <1374227641.3564756.1468547195556.JavaMail.yahoo.ref@mail.yahoo.com>

<1374227641.3564756.1468547195556.JavaMail.yahoo@mail.yahoo.com>
<8D67DD546DB7479CBC50D218C142D6AF@Lenovo>
<54cd8515-9ed9-d50a-4e8e-3bf30435d3e9@earthlink.net>
Message-ID: <2ab25bbb-47aa-6f01-c4cc-f91fbf994921@ix.netcom.com>

A slow AVC or even manual RF gain control will sound better on AM with serious selective fading because it prevents the gain from going way up when the fading notch is at the carrier frequency but does nothing to eliminate the distortion. The advantage of a synchronous detector is that the carrier never goes away so while the frequency response of the signal may be affected by the null moving through the signal it never has the extreme distortion of the signal becoming essentially a carrier suppressed double sideband signal. Slow AVC or one based on the recovered signal is actually necessary since a normal speed AVC tends to follow the carrier fading.

Note BTW that a carrier suppressed DSB signal has the same power advantage over AM that SSB does because the sidebands add coherently. Costas points this out in his paper. The characteristics of carrier suppressed DSB are quite interesting, it actually has some advantage over SSB when there is serious selective fading assuming that a synchronous detector is used. Synchronous DSB is really a sort of frequency diversity since each sideband is a duplicate of the other.

On 7/15/2016 9:39 PM, Scott Robinson via BoatAnchors wrote:

> Hi Arden,
>
> Experience with these circuits in modern commercial receivers (Lowe
> HF-150 and many Grundig and Sony portables, for instance) is that they
> do work and considerably improve reception.
>
> But as I said earlier, fast attack/slow decay AVC is very helpful, too,
> and much simpler to add.
>
> /Scott Robinson

--

Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From 1oldlens1 at ix.netcom.com Sat Jul 16 23:49:53 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sat, 16 Jul 2016 20:49:53 -0700
Subject: [BoatAnchors] [ARC5] Zero Beat Question
In-Reply-To: <1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>

References: <1296906817.422824.1468721613045.JavaMail.yahoo.ref@mail.yahoo.com>
<1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>
Message-ID: <83c92943-bcf8-b423-0c4f-20227031e6fe@ix.netcom.com>

Its worth reading
<http://www.tek.com/blog/what%E2%80%99s-your-iq-%E2%80%93-about-quadrature-signals%E2%80%A6>

Any kind of modulated signal can be produced by a combination of I and Q and any can be analyzed as a combination of amplitude and quadrature.

I can't agree about a single sideband with carrier present. The method you describe of tuning a receiver off to one side of a double sideband signal with a carrier results in reduction of the carrier. If the carrier is replaced in the receiver the result is an undistorted signal.

AM, FM and PM can all be considered as combinations of AM and QM.

Bill mentioned the conditions for coherence. In fact, in order for a signal to occupy a single frequency it must be infinite in length, i.e. it must go on for all time. If the signal starts and stops it has sidebands. This can be shown mathematically by a Fourier analysis. There are some good tutorials on the web for those interested in learning more. I must say this stuff stretches my math to the limits (I can hear it creaking).

BTW, its possible to transmit SSB via an AM transmitter. This was promoted by Leonard Kahn. The idea is that the amplitude or I part of the signal is fed to the modulator and the PM or Q signal goes to the RF. If done properly the result is to convert an AM transmitter to a linear amplifier which will pass any type of modulation. A few broadcast stations employed this something like thirty five years ago, including one locally who used vestigial sideband to effectively push the signal over to reduce co-channel interference.

There is another kind of Kahn modulation around, due to Joseph Kahn, which theoretically can yield 100% efficiency for any type of modulation at any signal level. I do NOT understand it (yet).

--

Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From 1oldlens1 at ix.netcom.com Sat Jul 16 23:58:05 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sat, 16 Jul 2016 20:58:05 -0700
Subject: [BoatAnchors] [ARC5] Zero Beat Question
In-Reply-To: <1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>

References: <1296906817.422824.1468721613045.JavaMail.yahoo.ref@mail.yahoo.com>
<1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>
Message-ID: <b6b66e75-aa6d-6888-443b-51f4003450c8@ix.netcom.com>

A correction: The Kahn EER technique I referred to IS due to Leonard Kahn and not Joseph Khan as I stated. I am not sure how I confused this.

--

Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From wb3fau55 at neo.rr.com Sat Jul 16 17:06:53 2016
From: wb3fau55 at neo.rr.com (wb3fau55 at neo.rr.com)
Date: Sat, 16 Jul 2016 17:06:53 -0400
Subject: [BoatAnchors] 390A
Message-ID: <20160716210653.EM6JV.119249.root@cdptpa-web24>

Well guys, I am not getting continuity from S207 back to V202 grid. But I can measure the 27 ohm resistor from E209 back to the grid. I pulled the Z204-2 can, and got no reading at the pin2. So looks like I will have to pull the deck and deal with the wafer switch S207. So much for now...Russ.

From wb0eq at yahoo.com Sun Jul 17 11:16:47 2016
From: wb0eq at yahoo.com (John Sehring)
Date: Sun, 17 Jul 2016 15:16:47 +0000 (UTC)
Subject: [BoatAnchors] V[ARC5] Zero Beat Question
References: <904236493.561578.1468768607570.JavaMail.yahoo.ref@mail.yahoo.com>
Message-ID: <904236493.561578.1468768607570.JavaMail.yahoo@mail.yahoo.com>

Arden,

If SSB plus carrier was distortion-free, then it would used in broadcasting, no?

Selective fading on HF ionospheric-propagated signals is caused by amplitude- and phase-imbalances imposed on the original signal. The signal's spectrum is severely corrupted by this. A spectrum analyzer and our ears verify this.

All your questions are answered in this professional-strength document:

www.americanradiohistory.com/Archive-NAB-Engineering/NAB.../3-NAB-7th.pdf

CHU uses SSB + carrier to reduce the frequency-domain dispersion (which happens during propagation in the ionosphere) of its signal. Such frequency dispersion leads to a corresponding uncertainty in the time domain, i.e. in the time signal (this is explained by Fourier Analysis). Reduced signalling bandwidth is the key to minimizing it which the (narrower) SSB-C modulation provides. And yes, there is distortion on the envelope-detected modulation--an AF distortion analyzer & low-distortion AM receiver will show this.

--John Sehring VE6EQR-WB0EQ nr Calgary, Alberta, Canada

From wlfuqu00 at uky.edu Sun Jul 17 16:01:33 2016
From: wlfuqu00 at uky.edu (Fuqua, Bill L)
Date: Sun, 17 Jul 2016 20:01:33 +0000
Subject: [BoatAnchors] [ARC5] Zero Beat Question
In-Reply-To: <1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>
References: <1296906817.422824.1468721613045.JavaMail.yahoo.ref@mail.yahoo.com>, <1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>
Message-ID: <B7E8B5B4A202074084E2515A7B10A7F34F3DFF78@ex10mb02.ad.uky.edu>

Narrow band FM produces sidebands just like AM in fact if the modulation index is say .5 for FM and you have 50% AM modulation the lower sidebands will cancel out and upper sideband double in magnitude (in terms of voltage not power). If you have even more FM you get extra sidebands thus causing even more distortion.

73

Bill wa4lav

From: John Sehring [wb0eq at yahoo.com]
Sent: Saturday, July 16, 2016 10:13 PM
To: Boatanchors List
Subject: [BoatAnchors] [ARC5] Zero Beat Question

If the sidebands of an "AM" signal are not closely the same, you'll get distortion.

In fact you'll see residual (spurious) phase modulation on it.

In the extreme case of full carrier & only one complete sideband, the distortion is plainly audible (& objectional to my ears).

You can simulate this by tuning in an AM signal using a sharp 3 kHz filter. Place the carrier toward the edge of the filter allowing only one sideband thru. You'll hear the crud! (I wrote an article on just this subject for Electric Radio a few years ago.)

The combo of AM & FM produces a horrible sounding signal.

The FCC's ancestor decreed in 1930s that the FMing be minimized.

That's why carrier deviation meters appeared on AM broadcast transmitters.

The Costas (G.E.) system used both sidebands, to confer a kind spread spectrum & jamming advantage in that the sidebands were the same and that redundancy could be exploited. The theory was & is sound but the receiver was a nightmare as sufficient technology was not there at that time to make it practical-- (mid-1950s)--but it is now.

So G.E. lost out to SSB by Collins.

--John Sehring VE6EQR-WB0EQ nr Calgary, Alberta, Canada

From gumbear at pacbell.net Sun Jul 17 16:01:15 2016

From: gumbear at pacbell.net (Arden Allen)

Date: Sun, 17 Jul 2016 13:01:15 -0700

Subject: [BoatAnchors] [ARC5] Zero Beat Question

In-Reply-To: <83c92943-bcf8-b423-0c4f-20227031e6fe@ix.netcom.com>

References: <1296906817.422824.1468721613045.JavaMail.yahoo.ref@mail.yahoo.com>

<1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>

<83c92943-bcf8-b423-0c4f-20227031e6fe@ix.netcom.com>

Message-ID: <E87E1F996D63494C91C510DF3E13CAC4@Lenovo>

> In fact, in order for
a signal to occupy a single frequency it must be infinite in length,
i.e. it must go on for all time.

Can this be put into laymen's language?

Arden Allen

KB6NAX

He who is cruel to animals becomes
hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.
?Immanuel Kant

From wlfuqu00 at uky.edu Sun Jul 17 16:21:00 2016

From: wlfuqu00 at uky.edu (Fuqua, Bill L)

Date: Sun, 17 Jul 2016 20:21:00 +0000

Subject: [BoatAnchors] [ARC5] Zero Beat Question
In-Reply-To: <E87E1F996D63494C91C510DF3E13CAC4@Lenovo>
References: <1296906817.422824.1468721613045.JavaMail.yahoo.ref@mail.yahoo.com>
<1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>
<83c92943-bcf8-b423-0c4f-20227031e6fe@ix.netcom.com>,
<E87E1F996D63494C91C510DF3E13CAC4@Lenovo>
Message-ID: <B7E8B5B4A202074084E2515A7B10A7F34F3DFFBF@ex10mb02.ad.uky.edu>

Lets put it this way, the longer you observe a signal the better the frequency resolution becomes.

You set the gate width of your frequency counter to 1 second you may measure frequency to 1 Hz resolution.

If you count the frequency for 1000 seconds you will have up to 1mHz resolution and so on. If you count

for an infinite time you will have zero Hz (perfect) resolution.

To measure frequency you must count the full cycles. Unless you are clairvoyant and know that all the following cycles are exactly the same as the first. In that case you can measure the period of a cycle and calculate the frequency.

Sometimes this is done, however it is assumed that every cycle is just like the one you measured, which can't be the case due to issues with noise on the signal, phase and amplitude.

This is also why very narrow filters ring and broad ones don't.

It is a mathematical limitation regarding waves. Frequency resolution times Time resolution must be less than 1.

$\Delta F \times \Delta T < 1$. This can be used to verify Heisenberg's Uncertainty Principle.

73

Bill wa4lav

From: Arden Allen [gumbear at pacbell.net]
Sent: Sunday, July 17, 2016 4:01 PM
To: Richard Knoppow; boatanchors at theporch.com
Subject: Re: [BoatAnchors] [ARC5] Zero Beat Question

> In fact, in order for
a signal to occupy a single frequency it must be infinite in length,
i.e. it must go on for all time.

Can this be put into laymen's language?

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KB6NAX

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hard also in his dealings with men.
We can judge the heart of a man by

his treatment of animals.
?Immanuel Kant

From gumbear at pacbell.net Sun Jul 17 16:25:02 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Sun, 17 Jul 2016 13:25:02 -0700
Subject: [BoatAnchors] V[ARC5] Zero Beat Question
In-Reply-To: <904236493.561578.1468768607570.JavaMail.yahoo@mail.yahoo.com>
References: <904236493.561578.1468768607570.JavaMail.yahoo.ref@mail.yahoo.com>
<904236493.561578.1468768607570.JavaMail.yahoo@mail.yahoo.com>
Message-ID: <D6F3E367C4D44FC0B318349B38089115@Lenovo>

Manufacturer's don't want to make products more complex than utility requires. Also consumer equipment legacy (like my 1927 RCA Radiola 17) must be maintained as originally conceived by the industry and FCC. So SSB has no added value to local area broadcasting, the economics don't support it. With FM broadcasting stereo was attractive as it enhanced consumer use of the medium so stereo MPX circuits were added to receivers. MPX incorporates DSB in the creation of the stereo signal that modulates the FM transmitter. In the receiver the carrier is the 19kHz pilot signal doubled to 38kHz for demodulation and separation of left and right channel audio.

For long distance transmissions SSB solves the problem of selective fading because the carrier is locally generated and added to the recovered sidebands so selective fading is negated. SSB is also much more efficient because you don't have to expend the power necessary to include the carrier in the transmitted signal.

> Selective fading on HF ionospheric-propagated signals is caused by
> amplitude- and phase-imbalances imposed on the original signal. The
> signal's spectrum is severely corrupted by this. A spectrum analyzer and
> our ears verify this.

Unfortunately, John, that is a muddled statement. You need to restate what you intend in its piecewise components. The sidebands are ***essentially*** undistorted by fading.

> And yes, there is distortion on the envelope-detected
> modulation--an AF distortion analyzer & low- distortion AM receiver will
> show this.

No doubt there is some instantaneous phase cancellation of components of a sideband but the rest remains intact preserving the practical intelligence in the signal. Both sidebands added together in demodulation obviously preserve more of the intelligence. Do we agree? Thanks.

Arden

-----Original Message-----

From: John Sehring via BoatAnchors
Sent: Sunday, July 17, 2016 8:16 AM
To: Boatanchors List
Subject: [BoatAnchors] V[ARC5] Zero Beat Question

Arden,

If SSB plus carrier was distortion-free, then it would be used in broadcasting, no?

Selective fading on HF ionospheric-propagated signals is caused by amplitude- and phase-imbalances imposed on the original signal. The signal's spectrum is severely corrupted by this. A spectrum analyzer and our ears verify this.

All your questions are answered in this professional-strength document:

www.americanradiohistory.com/Archive-NAB-Engineering/NAB.../3-NAB-7th.pdf

CHU uses SSB + carrier to reduce the frequency-domain dispersion (which happens during propagation in the ionosphere) of its signal. Such frequency dispersion leads to a corresponding uncertainty in the time domain, i.e. in the time signal (this is explained by Fourier Analysis). Reduced signalling bandwidth is the key to minimizing it which the (narrower) SSB-C modulation provides. And yes, there is distortion on the envelope-detected modulation--an AF distortion analyzer & low-distortion AM receiver will show this.

--John Sehring VE6EQR-WB0EQ nr Calgary, Alberta, Canada

BoatAnchors mailing list
BoatAnchors at theporch.com
<https://minime.theporch.com/mailman/listinfo/boatanchors>

From: gumbear at pacbell.net Sun Jul 17 16:39:49 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Sun, 17 Jul 2016 13:39:49 -0700
Subject: [BoatAnchors] [ARC5] Zero Beat Question

In-Reply-To: <B7E8B5B4A202074084E2515A7B10A7F34F3DFFBF@ex10mb02.ad.uky.edu>
References: <1296906817.422824.1468721613045.JavaMail.yahoo.ref@mail.yahoo.com>
<1296906817.422824.1468721613045.JavaMail.yahoo@mail.yahoo.com>
<83c92943-bcf8-b423-0c4f-20227031e6fe@ix.netcom.com>,
<E87E1F996D63494C91C510DF3E13CAC4@Lenovo>
<B7E8B5B4A202074084E2515A7B10A7F34F3DFFBF@ex10mb02.ad.uky.edu>
Message-ID: <495ECCBF0882498499171DF2FDC45674@Lenovo>

OK, Bill, you are talking the mathematics of precision measurements. There is no such a thing in the universe as a pure sine wave, i.e., one with a zero bandwidth. The concept of coherence is a term of relativity. If you average anything for eternity all you will get is older and wiser ;-)

Arden

> Lets put it this way, the longer you observe a signal the better the
> frequency resolution becomes.
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> that every cycle is just like the one you measured, which can't be the
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It is a mathematical limitation regarding waves. Frequency resolution times Time resolution must be less than 1.
 $\Delta F \times \Delta T < 1$. This can be used to verify Heisenberg's Uncertainty Principle.
a signal to occupy a single frequency it must be infinite in length, i.e. it must go on for all time.

From dave at horsfall.org Sun Jul 17 19:27:45 2016
From: dave at horsfall.org (Dave Horsfall)
Date: Mon, 18 Jul 2016 09:27:45 +1000 (EST)
Subject: [BoatAnchors] V[ARC5] Zero Beat Question
In-Reply-To: <904236493.561578.1468768607570.JavaMail.yahoo@mail.yahoo.com>
References: <904236493.561578.1468768607570.JavaMail.yahoo.ref@mail.yahoo.com>
<904236493.561578.1468768607570.JavaMail.yahoo@mail.yahoo.com>
Message-ID: <alpine.BSF.2.11.1607180926220.65801@aneurin.horsfall.org>

On Sun, 17 Jul 2016, John Sehring via BoatAnchors wrote:

> All your questions are answered in this professional-strength document:
>
> www.americanradiohistory.com/Archive-NAB-Engineering/NAB.../3-NAB-7th.pdf

That page is 404-compliant...

--

Dave Horsfall DTM (VK2KFU) "Those who don't understand security will suffer."

From gumbear at pacbell.net Sun Jul 17 23:21:39 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Sun, 17 Jul 2016 20:21:39 -0700
Subject: [BoatAnchors] V[ARC5] Zero Beat Question
In-Reply-To: <alpine.BSF.2.11.1607180926220.65801@aneurin.horsfall.org>
References: <904236493.561578.1468768607570.JavaMail.yahoo.ref@mail.yahoo.com>
<904236493.561578.1468768607570.JavaMail.yahoo@mail.yahoo.com>
<alpine.BSF.2.11.1607180926220.65801@aneurin.horsfall.org>
Message-ID: <FC3E36AB0B1D46BEAC3FF4B3F5098005@Lenovo>

> That page is 404-compliant...

There is something wrong with that page, the TRANSMITTERS link comes up with 4-NAB-7th.pdf instead of 3-NAB-7th.pdf. I found another way to retrieve it - <http://www.docs-engine.com/pdf/1/am-an-fm-modulation.html>

Arden Allen
KB6NAX

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?Immanuel Kant

From 1oldlens1 at ix.netcom.com Sun Jul 17 14:38:42 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sun, 17 Jul 2016 11:38:42 -0700
Subject: [BoatAnchors] V[ARC5] Zero Beat Question
In-Reply-To: <904236493.561578.1468768607570.JavaMail.yahoo@mail.yahoo.com>
References: <904236493.561578.1468768607570.JavaMail.yahoo.ref@mail.yahoo.com>
<904236493.561578.1468768607570.JavaMail.yahoo@mail.yahoo.com>
Message-ID: <fb6db52e-751c-4427-5bdb-5335ac7e6d78@ix.netcom.com>

This does not seem to be a good link.

On 7/17/2016 8:16 AM, John Sehring via BoatAnchors wrote:

> A
>
> www.americanradiohistory.com/Archive-NAB-Engineering/NAB.../3-NAB-7th.pdf
>
>

--
Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From 1oldlens1 at ix.netcom.com Mon Jul 18 12:37:25 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Mon, 18 Jul 2016 09:37:25 -0700
Subject: [BoatAnchors] V[ARC5] Zero Beat Question
In-Reply-To: <FC3E36AB0B1D46BEAC3FF4B3F5098005@Lenovo>
References: <904236493.561578.1468768607570.JavaMail.yahoo.ref@mail.yahoo.com>
<904236493.561578.1468768607570.JavaMail.yahoo@mail.yahoo.com>
<alpine.BSF.2.11.1607180926220.65801@aneurin.horsfall.org>
<FC3E36AB0B1D46BEAC3FF4B3F5098005@Lenovo>
Message-ID: <c32ec189-6fc3-a63f-a74e-b4e6aeac8263@ix.netcom.com>

Docs Engine turns out to be a powerful and useful search engine, thanks
for posting it.

On 7/17/2016 8:21 PM, Arden Allen via BoatAnchors wrote:

>> That page is 404-compliant...
>
> There is something wrong with that page, the TRANSMITTERS link comes up
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> his treatment of animals.
> ?Immanuel Kant
>
> -----
> BoatAnchors mailing list
> BoatAnchors at theporch.com
> <https://minime.theporch.com/mailman/listinfo/boatanchors>

--

Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From listown at nanniandjack.com Mon Jul 18 16:16:26 2016
From: listown at nanniandjack.com (Jack G F Hill)
Date: Mon, 18 Jul 2016 15:16:26 -0500
Subject: [BoatAnchors] Overquoting Jail
Message-ID: <17760067-2ff8-4c14-0f86-60a362d741dc@nanniandjack.com>

Gentle Lovers of Fire Bottles-

My Jail for over quoting is beginning to fill up. And, because I am old and cranky, and RETIRED, I can take the time to see who is naughty and who is nice...

Presumed evidence to the contrary notwithstanding, I would like to EMPTY the Jail, but I need everyone's help to do that.

This list was built on the paradigm of a symposium. In a symposium, one would NEVER repeat, in toto (including all the footnotes), a paper that one was commenting on, responding to, amplifying, or whatever.

A couple of inmates have begun to remove the signature blocks and list footers from messages they respond to... with continued good behavior, these folks will soon be on parole. Sadly, their places will likely be taken up by a few folks who just can't be bothered to simply run their mouse over signature blocks and message footers and push backspace or delete. I'm not even trying to get comments interspersed with original post, which to me, would be ideal... I am simply asking that you be courteous and remove the parts of the posts you comment on that have absolutely *NO* bearing whatsoever on the information you comment on, or amplify. Simple. Courtesy.

--

Jack Hill, W4KH - BoatAnchors Listowner/Archiver
listown at nanniandjack.com
"Plus ca change, plus c'est la meme chose"
"Il n'y a que les idiots qui ne changent jamais d'idee"

From vilgotch at bigpond.net.au Mon Jul 18 18:27:54 2016
From: vilgotch at bigpond.net.au (Morris Odell)
Date: Tue, 19 Jul 2016 08:27:54 +1000
Subject: [BoatAnchors] V[ARC5] Zero Beat Question
In-Reply-To: <904236493.561578.1468768607570.JavaMail.yahoo@mail.yahoo.com>

References: <904236493.561578.1468768607570.JavaMail.yahoo.ref@mail.yahoo.com>
<904236493.561578.1468768607570.JavaMail.yahoo@mail.yahoo.com>
Message-ID: <823EF0AC0CE6463B8535BBFDFCAD5B4A@LGLaptop>

> If SSB plus carrier was distortion-free, then it would be used in
> broadcasting, no?

There were other considerations involved in using SSB for broadcasting too. I have a British radio engineering textbook from the 1940s where they explore the proposal and apart from the issues of tuning SSB etc they calculate that if an extra BFO valve (tube) was to be included in every radio in Britain the extra power consumption would mean they would have to build a new power station! Of course the national grid and power usage in those days was a lot smaller than it is now.

73, Morris

From navy.radio at gmail.com Tue Jul 19 09:58:00 2016
From: navy.radio at gmail.com (Nick England)
Date: Tue, 19 Jul 2016 09:58:00 -0400
Subject: [BoatAnchors] Wiring harnesses and nailboards - FWIW
Message-ID: <CAB55hNfm-fiEdz9a+06MaZnGMrAdM+36xMk7NxZj25RQD8TEQA@mail.gmail.com>

A nice page here -
<http://www.dairiki.org/hammond/cable-lacing-howto/>

Nick England K4NYW
www.navy-radio.com

From arc5 at ix.netcom.com Wed Jul 20 09:22:38 2016
From: arc5 at ix.netcom.com (David Stinson)
Date: Wed, 20 Jul 2016 08:22:38 -0500
Subject: [BoatAnchors] BC-669: If You're Interested In the 669
Message-ID: <66738CDDAAF34E00B6AE2A09F4350725@DaddyPC>

If anyone is seriously interested in the BC-669, this crystal set is a good accessory to have and a bargain at this price:

<http://www.ebay.com/itm/252466857942>

The crystals have large blanks and are easy to etch to frequency. The brown ones often have open electrodes but are easy to fix.

I don't know the man but he has 100% feedback on hundreds of transactions.

73 Dave S.

From arc5 at ix.netcom.com Wed Jul 20 10:32:34 2016
From: arc5 at ix.netcom.com (=?utf-8?B?YXJjNUBpeC5uZXRjb20uY29t?=
Date: Wed, 20 Jul 2016 14:32:34 GMT
Subject: [BoatAnchors] Wiring harnesses and nailboards - FWIW
Message-ID: <000f4242.6126480339ca20cc@ix.netcom.com>

Thank you for this link, Nick!
Sent from my ain't-so-smartphone.

From gsantacana at gmail.com Wed Jul 20 10:43:45 2016
From: gsantacana at gmail.com (Guido Santacana)
Date: Wed, 20 Jul 2016 10:43:45 -0400
Subject: [BoatAnchors] R390A report
In-Reply-To: <8c965481-c745-f669-779f-43114a6dac5a@ix.netcom.com>
References: <2fe091.4463eee.44bb2d4f@cs.com>
<8c965481-c745-f669-779f-43114a6dac5a@ix.netcom.com>
Message-ID: <E62C485F-1E93-45D9-945A-447D6E192BC3@gmail.com>

Well, I tested the 30 and 45uF multisection caps using a power supply and a Variac. Increased the voltage until the max rating was achieved and left it there for more than an hour per section. The 30uF remained cool in all three sections but the 45uF was warm after about 15 minutes in both sections. It seems that the 30uF can be used but the 45uF needs replacement or repacking. Today I am removing the IF subchassis for cap replacement. Smoke test is still a few days away.

73s

Guido Santacana KP4FAR

From arc5 at ix.netcom.com Fri Jul 22 14:12:51 2016
From: arc5 at ix.netcom.com (David Stinson)
Date: Fri, 22 Jul 2016 13:12:51 -0500
Subject: [BoatAnchors] Boatanchor Ennui: Is He Wrong?
Message-ID: <276A1B6D1BA54CFD935A43D625747D36@DaddyPC>

I was talking with a "grumble buddy" the other day concerning our "boatanchor radio" hobby and its future.

"Dave, for every twenty guys with a garage or storage locker full of crap, there's maybe *one* who has heated a soldering iron and actually finished a project and got it on the air in the last 10 years. They all have the "'round-Tuit" disease and it's going to stay that way until their stuff goes to the dump."

I told him he was being cynical- that there were at least twice that many guys who actually finished a project and got it on the air.

What's your perspective?

From kd5byb at kd5byb.net Fri Jul 22 15:31:23 2016
From: kd5byb at kd5byb.net (Ben Hall)
Date: Fri, 22 Jul 2016 14:31:23 -0500
Subject: [BoatAnchors] Boatanchor Ennui: Is He Wrong?
In-Reply-To: <276A1B6D1BA54CFD935A43D625747D36@DaddyPC>
References: <276A1B6D1BA54CFD935A43D625747D36@DaddyPC>
Message-ID: <316b7692-5b4f-27c9-661d-37ca9391f099@kd5byb.net>

On 7/22/2016 1:12 PM, David Stinson via BoatAnchors wrote:
> I told him he was being cynical- that there were at least twice that
> many guys who actually finished
> a project and got it on the air.
> What's your perspective?

I think there may be four. ;) I can only speak for myself...but I've got a garage full of old stuff and while I've got one heck of a back-log, I've got a good bit of stuff repaired and up-and-running:

* Pair of BC-348's

- * Couple of the cute little Setchell-Carlson range receivers
- * RBA
- * Several RBx power supplies (one powers the RBA)
- * a pair of RBM power supplies, they work great, but I don't have the receivers checked-out yet
- * One WS-19 mains power supply
- * One WS-19 MK3 dynamotor supply
- * One WS-19 MK2 dynamotor supply (but the transceivers aren't working yet)
- * BC-229 receiver, BC-230 transmitter
- * RBL-3 (it hears well, but I've never been able to hear SAQ on it, or really anything else here)

If I extend it to old engines, my other hobby, there's even more to list.

I will **not** admit to the sets awaiting repair, for that list is rather shameful. ;)

While I agree there are people with garages full of stuff that they'll never get to, and maybe it will go to the dump, I think there are still a few of us out here in BA-land who have the iron warm at least once a week and have made some progress over the years. :)

thanks much and 73,
ben, kd5byb

From wa9jml at frontier.com Fri Jul 22 16:13:01 2016
From: wa9jml at frontier.com (Steve Berg)
Date: Fri, 22 Jul 2016 15:13:01 -0500
Subject: [BoatAnchors] Boatanchor Ennui: Is He Wrong?
In-Reply-To: <276A1B6D1BA54CFD935A43D625747D36@DaddyPC>
References: <276A1B6D1BA54CFD935A43D625747D36@DaddyPC>
Message-ID: <0e16ac9e-188e-4555-f6ad-ef07c04d62ed@frontier.com>

I have not had the time or room to troubleshoot my GSB 100 exciter. My dishwasher blew up right over my BA collection a while back, soaking it pretty badly. I did start putting a stereo phone plug on one of my D104 mics, and just as I made the last solder connection, the brittle mic lead broke. I am ordering some Switchcraft plugs, and then will see if their better construction will allow me to actually put the connector together.

I posted a pair of 6 and 2 meter Hallicrafters SR series AM rigs on the list, and got no interest. So, they have been recycled, since Illinois won't allow electronics in landfills any more. I kept the Clegg rigs and their National VFOs and will put those back into use once I finally get my late cousin's estate closed.

There is some activity in fixing these old treasures, but even if we are retired, there always seems to be things getting in the way.

Steve WA9JML

From gsantacana at gmail.com Fri Jul 22 16:59:38 2016
From: gsantacana at gmail.com (Guido Santacana)
Date: Fri, 22 Jul 2016 16:59:38 -0400
Subject: [BoatAnchors] Boatanchor Ennui: Is He Wrong?
In-Reply-To: <0e16ac9e-188e-4555-f6ad-ef07c04d62ed@frontier.com>
References: <276A1B6D1BA54CFD935A43D625747D36@DaddyPC>
<0e16ac9e-188e-4555-f6ad-ef07c04d62ed@frontier.com>
Message-ID: <E2404C01-905D-47E6-B53D-4DA2891748F5@gmail.com>

I don't have a garage to store projects, just a small backyard concrete storage 8x8 shed. Only projects waiting there are a National NC54 and a very old 12vdc supply that can provide around 80 amps. In the shack I still have the BC348 awaiting further work, a Halli S53 and a TCS13. But then someone gave me a Soviet times multiband from the 70s and I just had to see that thing working. After that came the R390 and that is my project now. I really wish that many more projects were waiting for me at the backyard shed as my retirement nears 1.5 years from now. The question is who is going to take care of all this? Millenials don't care about these things at all. Maybe I can get a grandkid interested!

73s

Guido Santacana
KP4FAR

>
>
>
>
> -----
> BoatAnchors mailing list
> BoatAnchors at theporch.com
> <https://minime.theporch.com/mailman/listinfo/boatanchors>

From gumbear at pacbell.net Fri Jul 22 15:30:46 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Fri, 22 Jul 2016 12:30:46 -0700
Subject: [BoatAnchors] Boatanchor Ennui: Is He Wrong?
In-Reply-To: <276A1B6D1BA54CFD935A43D625747D36@DaddyPC>
References: <276A1B6D1BA54CFD935A43D625747D36@DaddyPC>

Message-ID: <73FC2547B8AF4624AE3187FBB500E33F@Lenovo>

David, when I finally got around to getting a ticket in '86 I was only interested in being radio active for nostalgia reasons. It was fun for about five years until I began to learn that ham radio was giving way to a crowd of bully boys while the remaining old timers were rapidly fading away. Now that there is nothing left of the short wave bands other than the saints always marching home and the devilish antics of the sidebanders ham radio has lost its appeal to me. I presently pursue audiophile and computer projects where there is a diversity of life that makes things enjoyable to do, the BA Mail List still being one of those. Barely a week goes by at least one of my solder irons is busy. If I was into mil gear I'm sure that would also keep me occupied but as I get older and creakier time on the job has been shrinking.

Arden Allen
KB6NAX

He who is cruel to animals becomes
hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.
?Immanuel Kant

From gsantacana at gmail.com Fri Jul 22 20:15:15 2016
From: gsantacana at gmail.com (Guido Santacana)
Date: Fri, 22 Jul 2016 20:15:15 -0400
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
Message-ID: <05CAAF6D-2FB2-4E91-9DE0-623809DADD5A@gmail.com>

I have to check my old notes but I don't have any recollection of ever seeing bumble bee caps in the R390As before. The IF in this EAC unit has a bunch of them. None are cracked but they will be replaced along with C553 and 549. It seems that this receiver has never been touched for any overhaul or major repair.

The mechanical alignment of the RF subchassis is OK. Anyone remembers if there could be any more bumble bees there?

73s

Guido

Guido Santacana KP4FAR

Sent from my iPad

From WA5CAB at cs.com Sat Jul 23 02:35:19 2016
From: WA5CAB at cs.com (WA5CAB at cs.com)
Date: Sat, 23 Jul 2016 02:35:19 -0400
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
Message-ID: <eebfff.1cc91c62.44c46a27@cs.com>

I wasn't aware that Bumble Bee capacitors were on the banned list with Black Beauties.

Robert Downs - Houston
wa5cab dot com (Web Store)
MVPA 9480

In a message dated 07/22/2016 19:15:40 PM Central Daylight Time,
boatanchors at theporch.com writes:

> I have to check my old notes but I don't have any recollection of ever
> seeing bumble bee caps in the R390As before. The IF in this EAC unit has a
> bunch of them. None are cracked but they will be replaced along with C553 and
> 549. It seems that this receiver has never been touched for any overhaul
> or major repair.
>
> The mechanical alignment of the RF subchassis is OK. Anyone remembers if
> there could be any more bumble bees there?
>
> 73s
>
> Guido
>
> Guido Santacana KP4FAR

From bluegrassdakine at hotmail.com Sat Jul 23 08:21:41 2016
From: bluegrassdakine at hotmail.com (Raymond Cote)
Date: Sat, 23 Jul 2016 07:21:41 -0500
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <eebfff.1cc91c62.44c46a27@cs.com>
References: <eebfff.1cc91c62.44c46a27@cs.com>
Message-ID: <BAY405-EAS4193FA6C2044553FC5B4CF7A90B0@phx.gbl>

> On Jul 23, 2016, at 01:52, Robert Downs WA5CAB via BoatAnchors <boatanchors at theporch.com> wrote:

>
> I wasn't aware that Bumble Bee capacitors were on the banned list with

> Black Beauties.
>
> Robert Downs - Houston
> wa5cab dot com (Web Store)
> MVPA 9480
>
> I wasn't either! It behaves us all to check all old caps it seems.

From 4cx250b at miamioh.edu Sat Jul 23 08:23:39 2016
From: 4cx250b at miamioh.edu (MU 4CX250B)
Date: Sat, 23 Jul 2016 06:23:39 -0600
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <BAY405-EAS4193FA6C2044553FC5B4CF7A90B0@phx.gbl>
References: <eebff.1cc91c62.44c46a27@cs.com>
<BAY405-EAS4193FA6C2044553FC5B4CF7A90B0@phx.gbl>
Message-ID: <-6879740929162884594@unknownmsgid>

I thought bumblebee caps and black beauties were the same thing!
Jim w8zr

Sent from my iPhone

> On Jul 23, 2016, at 6:22 AM, Raymond Cote via BoatAnchors <boatanchors at theporch.com> wrote:
>
>
>
>
>
>> On Jul 23, 2016, at 01:52, Robert Downs WA5CAB via BoatAnchors <boatanchors at theporch.com> wrote:
>>
>> I wasn't aware that Bumble Bee capacitors were on the banned list with
>> Black Beauties.
>>
>> Robert Downs - Houston
>> wa5cab dot com (Web Store)
>> MVPA 9480
>>
>> I wasn't either! It behaves us all to check all old caps it seems.
> -----
> BoatAnchors mailing list
> BoatAnchors at theporch.com
> <https://minime.theporch.com/mailman/listinfo/boatanchors>

From 1oldlens1 at ix.netcom.com Fri Jul 22 19:13:38 2016

From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Fri, 22 Jul 2016 16:13:38 -0700
Subject: [BoatAnchors] Boatanchor Ennui: Is He Wrong?
In-Reply-To: <73FC2547B8AF4624AE3187FBB500E33F@Lenovo>
References: <276A1B6D1BA54CFD935A43D625747D36@DaddyPC>
<73FC2547B8AF4624AE3187FBB500E33F@Lenovo>
Message-ID: <ad4551f8-44f2-4e03-ea4f-18d3d4f51c7f@ix.netcom.com>

There are certainly some bad guys on the air (Too many). I suppose technically they are in violation of the communications act but the FCC does not seem inclined to enforce it. Deliberate interference and some who I am quite sure are drunk on the air (illegal BTW). Short wave broadcasting died with the BBC World Service. I still like playing with the gear and there are still some good guys around. However, as the song says "The Thrill is Gone", not like it was when I was a teen and radio was important and still a vital method of communication.

--

Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From 1oldlens1 at ix.netcom.com Fri Jul 22 21:03:39 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Fri, 22 Jul 2016 18:03:39 -0700
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <05CAAF6D-2FB2-4E91-9DE0-623809DADD5A@gmail.com>
References: <05CAAF6D-2FB2-4E91-9DE0-623809DADD5A@gmail.com>
Message-ID: <a58d6d74-3e79-47e8-054b-0aa2307c145f@ix.netcom.com>

Are you sure these are "bumble bee" caps? Those were made by Sprague sometime before the R-390 went into production. Stripes were used on other types of caps, for instance, some ceramic caps. If these are old molded paper caps, whether Sprague or some other brand, they should be replaced. The Bumble Bee caps were supposed to be long lived but had some sort of production problem and began to fail soon after use. However, ALL paper caps have a problem with degradation of the dielectric with time and voltage. Probably the best now are polypropylene caps. They have excellent properties even into the RF range, and are better than ceramics for many uses.

FWIW, Sprague made a couple of variations of the Bumble Bee, up to 400 volts they were dry caps, the 600 volt and higher were oil filled, the filler being a tube which afterward acted as one of the leads. One problem was that too much heat applied when soldering would cause the tube to leak. Sprague later made a similar cap called a Telecap (for television). These look just like Bumble Bee caps but do not have the stripes for value coding. Plain black with the values marked in

printing. Officially, the BB's were known as Black Beauties. If you do have to replace them be comforted by the idea that no one will ever have to do it again.

>

--

Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From arc5 at ix.netcom.com Sat Jul 23 09:28:56 2016
From: arc5 at ix.netcom.com (David Stinson)
Date: Sat, 23 Jul 2016 08:28:56 -0500
Subject: [BoatAnchors] Boatanchor Ennui: Is He Wrong?
In-Reply-To: <79c1a3c8-9603-6887-cac2-77c00ab27b63@crosslink.net>
References: <276A1B6D1BA54CFD935A43D625747D36@DaddyPC>
<F64CD9DA-145A-4FBB-A4BD-3A3978CD5911@gmail.com>
<79c1a3c8-9603-6887-cac2-77c00ab27b63@crosslink.net>
Message-ID: <AAC2FBEF64A14C969F34BA1169C4A38C@DaddyPC>

----- Original Message -----

From: "gordon white" <gewwhite at crosslink.net>
> If you care about what you collect, figure out where it can
> go
> after you can no longer care for it... Someone cares,
> somewhere.

Excellent advice.

I'm thinking when it comes to mil-radios, the best solution if possible is to connect the radios with a military vehicle of some kind, which has a greater chance of being preserved long-term than a stand-alone radio with a collector base who's average age is now 68. I'm beginning the search for such places for some of my complete sets.
It's time.

73 DE Dave AB5S

From gsantacana at gmail.com Sat Jul 23 12:43:57 2016
From: gsantacana at gmail.com (Guido Santacana)
Date: Sat, 23 Jul 2016 12:43:57 -0400
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF

In-Reply-To: <a58d6d74-3e79-47e8-054b-0aa2307c145f@ix.netcom.com>

References: <05CAAF6D-2FB2-4E91-9DE0-623809DADD5A@gmail.com>

<a58d6d74-3e79-47e8-054b-0aa2307c145f@ix.netcom.com>

Message-ID: <6B839703-9739-4ABF-91E2-55C3367F15D0@gmail.com>

They have a brown body with the color stripes. All plastic and after a very careful check, all have thin linear cracks. Values are .033 and .1uF. The original C553 Vit. Q is there and ok but it will go too. These brown bumble bees may not be the black beauty types but they have the same type of cracks. All of them read near their original values even in this condition. In addition, they are shown very well in the original maintenance manual photos. If they are not Sprague, what are these?

Of course I have all kinds of replacements except, you guessed it, the .1uF values!

73s

Guido

Guido Santacana KP4FAR

From gsantacana at gmail.com Sat Jul 23 16:14:12 2016

From: gsantacana at gmail.com (Guido Santacana)

Date: Sat, 23 Jul 2016 16:14:12 -0400

Subject: [BoatAnchors] R390A revival. Bumble bees in the IF

In-Reply-To: <34ca22fc-7c01-8be5-5355-029dffacb7ed@ix.netcom.com>

References: <05CAAF6D-2FB2-4E91-9DE0-623809DADD5A@gmail.com>

<a58d6d74-3e79-47e8-054b-0aa2307c145f@ix.netcom.com>

<6B839703-9739-4ABF-91E2-55C3367F15D0@gmail.com>

<34ca22fc-7c01-8be5-5355-029dffacb7ed@ix.netcom.com>

Message-ID: <A91A6E48-F60E-423B-B547-B73EF037FAA2@gmail.com>

The best here is replacement of all those brown bumble bees. I have used polypropylene types in all of my last projects always with a higher voltage rating. I used my last .1uF ones in the S53 revival so I just ordered some more for this project.

The multisection electrolytics seem to be ok. I tested them using a power supply that provides their working voltage. Each section was connected for more than one hour the last 4 days. The 33uF multisection ran cool all the time. The 45uF multisection ran a bit warm the first day but the last 4 days it is running cool. Maybe it reformed. The readings on both caps are just 2uF off now.

I found one gassy 5814 in the IF subchassis. Every tube is being tested, pins cleaned, Deoxit added, base cleaned and then the tube inserted three times to clean out the contacts.

The project will be delayed a bit as I wait for the new caps. I have tried to remember everything that must be checked but if anyone remembers anything else let me know.

73s

Guido

Guido KP4FAR

Sent from my iPad

On Jul 23, 2016, at 1:25 PM, Richard Knoppow <1oldlens1 at ix.netcom.com> wrote:

> The cracks are a bad sign. They may have allowed moisture to get into the cap which accelerates the degradation of the dielectric.

> I don't know who made these particular ones but there were many companies making capacitors at the time. The best as I said in another post are polypropylene plastic types, they are excellent and will last forever. Not expensive. They can be bought from any of the major suppliers.

> A brief note on caps, there are three characteristics that should be tested for: one is the capacitance, the second is dissipation factor which is the same thing as effective series resistance but stated differently, the third is leakage. Often leakage is left out but its very important especially in capacitors use for blocking DC like coupling caps and bypass caps. Leakage is the same as parallel resistance. If there is any the cap will pass some DC. This is fatal when used as a coupling cap because it affects the bias. That causes distortion but can also cause a tube to draw too much current and shorten its life. Leakage can be measured with an ohm meter but often varies with the voltage so should be measured with something that puts near working voltage on the cap being tested. Cap checkers usually do this or one can use a high voltage ohm meter. Electrolytic caps always have some leakage but paper and other types should have virtually none.

>

>

> On 7/23/2016 9:43 AM, Guido Santacana wrote:

>> They have a brown body with the color stripes. All plastic and after a very careful check, all have thin linear cracks. Values are .033 and .1uF. The original C553 Vit. Q is there and ok but it will go too. These brown bumble bees may not be the black beauty types but they have the same type of cracks. All of them read near their original values even in this condition. In addition, they are shown very well in the original maintenance manual photos. If they are not Sprague, what are these?

>>

>> Of course I have all kinds of replacements except, you guessed it, the .1uF values!

>>

>> 73s

>>
>> Guido
>>
>> Guido Santacana KP4FAR
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>
> --
> Richard Knoppow
> 1oldlens1 at ix.netcom.com
> WB6KBL

From WA5CAB at cs.com Sat Jul 23 19:12:35 2016
From: WA5CAB at cs.com (WA5CAB at cs.com)
Date: Sat, 23 Jul 2016 19:12:35 -0400
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
Message-ID: <49d1e2.6441344c.44c553e3@cs.com>

Sorry, but those are just your personal opinions. Not necessarily born out in practice. Perhaps they are both true of consumer grade equipment.

In a message dated 07/23/2016 06:32:38 AM Central Daylight Time,
spr at earthlink.net writes:

> Folks,
>
> ALL paper dielectric caps--except possibly hermetically sealed oil/paper
> caps, very rare due to cost--have become resistors by now, brand doesn't
> matter that much.
>
> What does matter is where the radio has spent its life. If it has lived
> in desert territory the whole time, the paper caps will be in much
> better shape, but this is rare.
>
> There are a few such caps in the RF deck.
>
> Regards,
>
> Scott
>

From gsantacana at gmail.com Sat Jul 23 19:23:34 2016
From: gsantacana at gmail.com (Guido Santacana)
Date: Sat, 23 Jul 2016 19:23:34 -0400
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <0c499666-9ca7-12a7-4f87-ba9ba107667d@ix.netcom.com>

References: <05CAAF6D-2FB2-4E91-9DE0-623809DADD5A@gmail.com>
<a58d6d74-3e79-47e8-054b-0aa2307c145f@ix.netcom.com>
<6B839703-9739-4ABF-91E2-55C3367F15D0@gmail.com>
<34ca22fc-7c01-8be5-5355-029dffb7ed@ix.netcom.com>
<A91A6E48-F60E-423B-B547-B73EF037FAA2@gmail.com>
<0c499666-9ca7-12a7-4f87-ba9ba107667d@ix.netcom.com>
Message-ID: <D488811E-5058-41C5-9EBA-C3A793643C95@gmail.com>

Poly caps work quite well. I remember in the 90s when everyone was using orange drops in R390A restorations. They were "the caps" to use. The fact is that they were not easy to fit in tight spaces like those found in the R390A IF subchassis and they were not cheap. I have radios that were recapped years ago with the Poly's and they are holding well and that includes a Hammarlund SP210SX and a Halli SX28.

Best 73s

Guido

Guido Santacana KP4FAR

From arc5 at ix.netcom.com Sat Jul 23 21:47:52 2016
From: arc5 at ix.netcom.com (David Stinson)
Date: Sat, 23 Jul 2016 20:47:52 -0500
Subject: [BoatAnchors] "Chromed" Caps: Refinish Them?
Message-ID: <E562A3C9DA80403AA45735B549362755@DaddyPC>

I'm refinishing the covers on some of my Drake 7-line equipment. The handles on the side of the TR-7 and front of the PS-7 have chrome-plated caps over the handle mounting hardware. You can see the two on the PS-7 handle in this photo:
<https://goo.gl/photos/kq77mnhPkw3ZTTyMA>

Mine have gotten cruddy and a little rusty:
<https://goo.gl/photos/QNfmxxJEeTPTFTQJA>

Does anyone know a good way to refinish these, if not in chrome, at least in a clean and even satin finish? Thanks.

73 DE Dave AB5S

From 1oldlens1 at ix.netcom.com Sat Jul 23 13:25:07 2016

From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sat, 23 Jul 2016 10:25:07 -0700
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <6B839703-9739-4ABF-91E2-55C3367F15D0@gmail.com>
References: <05CAAF6D-2FB2-4E91-9DE0-623809DADD5A@gmail.com>
<a58d6d74-3e79-47e8-054b-0aa2307c145f@ix.netcom.com>
<6B839703-9739-4ABF-91E2-55C3367F15D0@gmail.com>
Message-ID: <34ca22fc-7c01-8be5-5355-029dffac7ed@ix.netcom.com>

The cracks are a bad sign. They may have allowed moisture to get into the cap which accelerates the degradation of the dielectric.

I don't know who made these particular ones but there were many companies making capacitors at the time. The best as I said in another post are polypropylene plastic types, they are excellent and will last forever. Not expensive. They can be bought from any of the major suppliers.

A brief note on caps, there are three characteristics that should be tested for: one is the capacitance, the second is dissipation factor which is the same thing as effective series resistance but stated differently, the third is leakage. Often leakage is left out but its very important especially in capacitors use for blocking DC like coupling caps and bypass caps. Leakage is the same as parallel resistance. If there is any the cap will pass some DC. This is fatal when used as a coupling cap because it affects the bias. That causes distortion but can also cause a tube to draw too much current and shorten its life. Leakage can be measured with an ohm meter but often varies with the voltage so should be measured with something that puts near working voltage on the cap being tested. Cap checkers usually do this or one can use a high voltage ohm meter. Electrolytic caps always have some leakage but paper and other types should have virtually none.

On 7/23/2016 9:43 AM, Guido Santacana wrote:

> They have a brown body with the color stripes. All plastic and after a very careful check, all have thin linear cracks. Values are .033 and .1uF. The original C553 Vit. Q is there and ok but it will go too. These brown bumble bees may not be the black beauty types but they have the same type of cracks. All of them read near their original values even in this condition. In addition, they are shown very well in the original maintenance manual photos. If they are not Sprague, what are these?

>

> Of course I have all kinds of replacements except, you guessed it, the .1uF values!

>

> 73s

>

> Guido

>

> Guido Santacana KP4FAR

>
>
>

--

Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From 1oldlens1 at ix.netcom.com Sat Jul 23 16:28:42 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sat, 23 Jul 2016 13:28:42 -0700
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <A91A6E48-F60E-423B-B547-B73EF037FAA2@gmail.com>
References: <05CAAF6D-2FB2-4E91-9DE0-623809DADD5A@gmail.com>
<a58d6d74-3e79-47e8-054b-0aa2307c145f@ix.netcom.com>
<6B839703-9739-4ABF-91E2-55C3367F15D0@gmail.com>
<34ca22fc-7c01-8be5-5355-029dffacb7ed@ix.netcom.com>
<A91A6E48-F60E-423B-B547-B73EF037FAA2@gmail.com>
Message-ID: <0c499666-9ca7-12a7-4f87-ba9ba107667d@ix.netcom.com>

I think you are on the right track with all. Unlike paper caps there is no advantage to using over rated poly caps but it doesn't hurt anything.

--

Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From gumbear at pacbell.net Sat Jul 23 16:39:33 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Sat, 23 Jul 2016 13:39:33 -0700
Subject: [BoatAnchors] Boatanchor Ennui: Is He Wrong?
In-Reply-To: <df6f5fb1-c126-1400-e420-2392f573778f@gmail.com>
References: <276A1B6D1BA54CFD935A43D625747D36@DaddyPC><F64CD9DA-145A-4FBB-A4BD-3A3978CD5911@gmail.com><79c1a3c8-9603-6887-cac2-77c00ab27b63@crosslink.net>
<df6f5fb1-c126-1400-e420-2392f573778f@gmail.com>
Message-ID: <63F72C3587C94CCB86A2947C2741EBA8@Lenovo>

This has been a very interesting thread for me because I've been cleaning out my garage for the last three weeks. I have a storage unit I'm paying \$105 a month for and it's full as a consequence of the garage cleanout. What went into the storage unit is of interest to someone. I've sold some of the stuff so far at the San Francisco area's California Historical Radio

Club's occasional swap meets. I'm still wondering how to get the rest of the stuff into other hands so I won't need to pay storage rent anymore. I think the last hope for our olde junque is for it to be taken over by the few young technology history types that are out there somewhere. So the question becomes, with no more short wave broadcasting and very little casual hamming left what good are old radios to anyone? Old cars you can drive. Old airplanes you can fly. Old musical instruments you can play (why I like classical music - it lives on and on). Old buildings you can live in. Old art you can decorate your home with. But old radios? The few around the house I restored to pristine condition are just for looks, like old art. Better to take up gardening or pet rescue. That's more like what life is really about. For us cynics, technology is the enemy of the good as it tries to replace life. Enjoy the driverless car of your dreams as it goes to the mall pharmacy for you to get your life support equipment maintenance supplies. Bumble bees are going extinct, BTW.

Arden Allen
KB6NAX

He who is cruel to animals becomes
hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.
?Immanuel Kant

From gumbear at pacbell.net Sat Jul 23 17:05:51 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Sat, 23 Jul 2016 14:05:51 -0700
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <-6879740929162884594@unknownmsgid>
References: <eebff.1cc91c62.44c46a27@cs.com>
<BAY405-EAS4193FA6C2044553FC5B4CF7A90B0@phx.gbl>
<-6879740929162884594@unknownmsgid>
Message-ID: <EE06AF725503474BA439226C60425787@Lenovo>

> I thought bumblebee caps and black beauties were the same thing!

With all the palaver about plastic molded paper capacitors the misinformation carries on. Color stripes were a result of a military/industrial convention that any manufacturer could mark their products with. I've given up on the notion that you can tell what manufacture made a striped capacitor, it just isn't that important to know about 60 year old capacitors w/wo cracks. Also, the quality of plastic molded paper capacitors varied widely as attested to by a reading of Spragues's various catalog lines. Only engineering data sheets are likely to disclose the differences between product lines granting any useful

comparisons are made. But I have never seen any engineering datasheet for anyone's capacitors which makes all the arguments moot. Testing for leakage in circuit or at 100% rated voltage is the only useful way to determine if a cap should stay or get the boot.

Keep in mind, replacing ceramic, mica, and original plastic film capacitors is a different ball game for each type. Because of the plentitude of dielectric types ceramic caps are made with it's important to know the correct application of each type in many cases. Mica caps should be accurately measured as their correct values are needed for many circuits to perform properly as designed. Film types going back to the '60's (mostly from Europe) usually test like new and seldom require replacing. Electrolytic capacitors is a subject for another thread.

Arden Allen
KB6NAX

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From gumbear at pacbell.net Sat Jul 23 23:21:13 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Sat, 23 Jul 2016 20:21:13 -0700
Subject: [BoatAnchors] "Chromed" Caps: Refinish Them?
In-Reply-To: <E562A3C9DA80403AA45735B549362755@DaddyPC>
References: <E562A3C9DA80403AA45735B549362755@DaddyPC>
Message-ID: <D764BB7CAD324C43834C40476E0A41E5@Lenovo>

> Does anyone know a good way to refinish these,
if not in chrome, at least in a clean and even
satin finish?

I usually clean the rust off on things like that using a fine wire wheel on a bench grinder. Not too easy to do if you don't like taking the skin off your fingers. But it yields a kind of brushed finish with the pits less obvious - you'll never get a mirror finish back though. A good cleaning with alcohol and then a coat or two of a durable clear finish will keep them looking good for some time.

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KB6NAX

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?Immanuel Kant

From spr at earthlink.net Sat Jul 23 23:12:48 2016
From: spr at earthlink.net (Scott Robinson)
Date: Sat, 23 Jul 2016 20:12:48 -0700
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <49d1e2.6441344c.44c553e3@cs.com>
References: <49d1e2.6441344c.44c553e3@cs.com>
Message-ID: <ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>

Hi Robert,

Yes these *are* my opinions, but they are based on experience. Even the bathtub caps in both military and fancy (E.H. Scott) civilian radios are likely to have deteriorated in this way.

Everyone can, of course, sort out their radios as they wish. I find that replacement of all paper dielectric caps doesn't take that long and I waste no time in diagnosis. While you are in the radio you should of course also measure all the resistor values. Sometimes they're all fine--they were in my 1953 Stewart-Warner built R-390A--btu sometimes they can drift way high.

A nice example of a high risk paper cap in all R-390A receivers is the coupling cap that drives the mechanical IF filters. They do fail, and they take out the driving coils in the IF filters if they have gotten bad enough.

FWIW,

Scott

On 7/23/16 4:12 PM, Robert Downs WA5CAB via BoatAnchors wrote:
> Sorry, but those are just your personal opinions. Not necessarily born out
> in practice. Perhaps they are both true of consumer grade equipment.
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> In a message dated 07/23/2016 06:32:38 AM Central Daylight Time,
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>> in desert territory the whole time, the paper caps will be in much
>> better shape, but this is rare.
>>
>> There are a few such caps in the RF deck.
>>
>> Regards,
>>
>> Scott

From wb3fau55 at neo.rr.com Sat Jul 23 10:14:02 2016
From: wb3fau55 at neo.rr.com (wb3fau55 at neo.rr.com)
Date: Sat, 23 Jul 2016 10:14:02 -0400
Subject: [BoatAnchors] 390A- caps
Message-ID: <20160723141402.IR0DD.96352.root@cdptpa-web20>

Guido and others-

in the IF strip, you will find about 8 .1uf caps and about 3 .033uf caps,
replace all of these. In the RF deck, there are 2 of the .1ufs and one
.033uf, save time and grief and change all these. You can wait on the RF deck,
fire it up see how it works?

I have 3 RF decks with problems. I have been warned that even the little
postage stamp micas will fail.

Black beauties, bumble bees and even the better Vitamin Qs all fail.

Some facts to consider- age, how stored, humidity all affect caps. My project
'58 contract Motorola 390A is 58 years old.

So I have a Stewart-Warner RF deck in it right now. Working but not below
8mc. Fun stuff to figure out. Not 100% sure if either 17mc osc is working or
the 17.5 to 25mc variable IF is working right. Input and guidance appreciated.
73s Russ.

From arc5 at ix.netcom.com Sun Jul 24 11:55:05 2016
From: arc5 at ix.netcom.com (David Stinson)
Date: Sun, 24 Jul 2016 10:55:05 -0500
Subject: [BoatAnchors] R390A revival.
In-Reply-To: <EE06AF725503474BA439226C60425787@Lenovo>
References: <eebff.1cc91c62.44c46a27@cs.com>
<BAY405-EAS4193FA6C2044553FC5B4CF7A90B0@phx.gbl>
<-6879740929162884594@unknownmsgid> <EE06AF725503474BA439226C60425787@Lenovo>
Message-ID: <6A0F2023F09249C2A32B9C51D7CD559B@DaddyPC>

Just a note of thanks to those taking the time to write-up
this project. While R-390s are "too young" for me,
the concepts and tips are useful in themselves.

TNX OM DE Dave AB5S

From radios at sbcglobal.net Sun Jul 24 12:31:38 2016
From: radios at sbcglobal.net (Lenox Carruth)
Date: Sun, 24 Jul 2016 11:31:38 -0500
Subject: [BoatAnchors] "Chromed" Caps: Refinish Them?
In-Reply-To: <D764BB7CAD324C43834C40476E0A41E5@Lenovo>
References: <E562A3C9DA80403AA45735B549362755@DaddyPC>
<D764BB7CAD324C43834C40476E0A41E5@Lenovo>
Message-ID: <023e01d1e5c8\$db0346e0\$9109d4a0\$@net>

I have just finished using one of the brush and battery type plating kits to nickel plate parts for an old Edison phonograph and it worked well. A bit slow but, in this case, the only way to do it. Chrome requires copper plating before you do the chrome. A more tedious process. Nickel plating gives a slightly different look than chrome but should work well in your application. The surface finish that you have when you start will be the surface finish that you get so polish the surface before plating. Rust pits don't work well at all so you need to polish them out. Then make sure the surface is clean and make sure you have the correct polarity for the power supply. (Don't ask me how I discovered that!) A good metal polish after plating will really make them shine.

Lenox
WA50VG

-----Original Message-----

> Does anyone know a good way to refinish these,
if not in chrome, at least in a clean and even satin finish?

I usually clean the rust off on things like that using a fine wire wheel on a bench grinder. Not too easy to do if you don't like taking the skin off your fingers. But it yields a kind of brushed finish with the pits less obvious - you'll never get a mirror finish back though. A good cleaning with alcohol and then a coat or two of a durable clear finish will keep them looking good for some time.

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KB6NAX

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?Immanuel Kant

BoatAnchors mailing list
BoatAnchors at theporch.com
<https://minime.theporch.com/mailman/listinfo/boatanchors>

From kd5byb at kd5byb.net Sun Jul 24 14:30:14 2016
From: kd5byb at kd5byb.net (Ben Hall)
Date: Sun, 24 Jul 2016 13:30:14 -0500
Subject: [BoatAnchors] Working on stuff - RCAF CR2 Radio Compass
In-Reply-To: <023e01d1e5c8\$db0346e0\$9109d4a0\$@net>
References: <E562A3C9DA80403AA45735B549362755@DaddyPC>
<D764BB7CAD324C43834C40476E0A41E5@Lenovo>
<023e01d1e5c8\$db0346e0\$9109d4a0\$@net>
Message-ID: <1287c65d-7793-2bc6-8598-b583c81541ae@kd5byb.net>

Afternoon all,

I'm in the process of inspecting a Royal Canadian Air Force CR2 Radio Compass Receiver made by Northern Electric Company. It appears to be a Canadian-made MN-26 variant with two MF bands and one HF band, similar to a MN-26Y or MN-26LB.

This particular unit has some light "hacking" done to it which I am reversing. A previous owner had tried to convert it to 12 VDC operation from its native 28 VDC, realized there was an issue, and partially converted it back to 28 VDC operation. That's all been rectified. :)

That same previous owner also replaced one of the tube sockets in a really poor fashion with one of the mounting ears broken off, so I need to install a replacement socket. Thankfully, my junk box turned up a suitable replacement. :)

Next up - additional electrical checks. This unit is *packed* with "micamold" paper caps with a near 100% failure rate IIRC, so I'll need to be paying attention to them closely.

Curious if anyone here is familiar with either the CR1 or the CR2 RCAF radio compasses?

thanks much and 73,
ben, kd5byb

From gsantacana at gmail.com Sun Jul 24 15:33:28 2016
From: gsantacana at gmail.com (Guido Santacana)
Date: Sun, 24 Jul 2016 15:33:28 -0400
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>
References: <49d1e2.6441344c.44c553e3@cs.com>
<ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>
Message-ID: <CA01yix0QvKsiBkpH2Krfy60C5Q986=DNM5SV3Q0Athzb1ptsgg@mail.gmail.com>

Bathtub types are dying too. I recently replaced all of them in my Hammarlund SP600JX and found most of them dead in the TCS receiver. The best thing to do with all these paper types is replacement. In a climate like mine this is something I don't think twice.

73s

Guido

Guido Santacana KP4FAR

On Sat, Jul 23, 2016 at 11:12 PM, Scott Robinson via BoatAnchors <boatanchors at theporch.com> wrote:

> Hi Robert,
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> Yes these *are* my opinions, but they are based on experience. Even the
> bathtub caps in both military and fancy (E.H. Scott) civilian radios are
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>>> Scott
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>> -----
> BoatAnchors mailing list
> BoatAnchors at theporch.com
> <https://minime.theporch.com/mailman/listinfo/boatanchors>
>

From gsantacana at gmail.com Sun Jul 24 15:38:02 2016
From: gsantacana at gmail.com (Guido Santacana)
Date: Sun, 24 Jul 2016 15:38:02 -0400
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <EE06AF725503474BA439226C60425787@Lenovo>
References: <eebff.1cc91c62.44c46a27@cs.com>
<BAY405-EAS4193FA6C2044553FC5B4CF7A90B0@phx.gbl>
<-6879740929162884594@unknownmsgid> <EE06AF725503474BA439226C60425787@Lenovo>
Message-ID: <CA01yix1Lz-OnXRC7h4KyZPYEgT7=vxKTK_pQb9zEVHtFAcvi6Q@mail.gmail.com>

About the European film type caps, I can attest to the fact that my old
Graetz Polka radio, a family heirloom, still works perfectly well with the
original caps. I have tested them and they still show no leakage.

73s

Guido

Guido Santacana KP4FAR

>
>

From navy.radio at gmail.com Sun Jul 24 17:44:13 2016
From: navy.radio at gmail.com (Nick England)
Date: Sun, 24 Jul 2016 17:44:13 -0400
Subject: [BoatAnchors] Vintage SSB gathering - some rare gear
Message-ID: <CAB55hNe_5g3Wuqz1Nrv3_47zFXXLZH3XnLDWMahhBxprMFKBgA@mail.gmail.com>

Vintage SSB gathering - some rare gear & interesting talks
<http://www.virhistory.com/ham/ssb-ce.htm>

Bob Heil was shooting video of the talks - should be available in the future.

Nick England K4NYW
www.navy-radio.com

From radios at sbcglobal.net Sun Jul 24 18:07:15 2016
From: radios at sbcglobal.net (Lenox Carruth)
Date: Sun, 24 Jul 2016 17:07:15 -0500
Subject: [BoatAnchors] "Chromed" Caps: Refinish Them?
In-Reply-To: <023e01d1e5c8\$db0346e0\$9109d4a0\$@net>
References: <E562A3C9DA80403AA45735B549362755@DaddyPC>
<D764BB7CAD324C43834C40476E0A41E5@Lenovo>
<023e01d1e5c8\$db0346e0\$9109d4a0\$@net>
Message-ID: <02c801d1e5f7\$bda9a6f0\$38fcf4d0\$@net>

Source for plating materials:

https://www.tubesandmore.com/products/radio_antique_equipment_parts_0?filters=Type%3DElectroplating

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Arden Allen
KB6NAX

From infomet at embarqmail.com Sun Jul 24 20:21:07 2016
From: infomet at embarqmail.com (Wilson Lamb)
Date: Sun, 24 Jul 2016 20:21:07 -0400 (EDT)
Subject: [BoatAnchors] Central Elect. Gathreing
In-Reply-To: <mailman.174.1469396663.296.boatanchors@theporch.com>
Message-ID: <500932908.139829211.1469406067889.JavaMail.root@embarqmail.com>

Thanks Nick,
I'd love to try a pair of those McMurdo Silvers!
Wilson
W4BOH

From 1oldlens1 at ix.netcom.com Sun Jul 24 14:30:26 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sun, 24 Jul 2016 11:30:26 -0700
Subject: [BoatAnchors] "Chromed" Caps: Refinish Them?
In-Reply-To: <023e01d1e5c8\$db0346e0\$9109d4a0\$@net>

References: <E562A3C9DA80403AA45735B549362755@DaddyPC>

<D764BB7CAD324C43834C40476E0A41E5@Lenovo>

<023e01d1e5c8\$db0346e0\$9109d4a0\$@net>

Message-ID: <cb3833c4-f5d9-0284-8e78-a4f336f3aa97@ix.netcom.com>

May I ask which plating kit you use?

On 7/24/2016 9:31 AM, Lenox Carruth via BoatAnchors wrote:

> I have just finished using one of the brush and battery type plating kits to nickel plate parts for an old Edison phonograph and it worked well. A bit slow but, in this case, the only way to do it. Chrome requires copper plating before you do the chrome. A more tedious process. Nickel plating gives a slightly different look than chrome but should work well in your application. The surface finish that you have when you start will be the surface finish that you get so polish the surface before plating. Rust pits don't work well at all so you need to polish them out. Then make sure the surface is clean and make sure you have the correct polarity for the power supply. (Don't ask me how I discovered that!) A good metal polish after plating will really make them shine.

>

> Lenox

> WA50VG

--

Richard Knoppow

1oldlens1 at ix.netcom.com

WB6KBL

From 1oldlens1 at ix.netcom.com Sun Jul 24 14:45:02 2016

From: 1oldlens1 at ix.netcom.com (Richard Knoppow)

Date: Sun, 24 Jul 2016 11:45:02 -0700

Subject: [BoatAnchors] Working on stuff - RCAF CR2 Radio Compass

In-Reply-To: <1287c65d-7793-2bc6-8598-b583c81541ae@kd5byb.net>

References: <E562A3C9DA80403AA45735B549362755@DaddyPC>

<D764BB7CAD324C43834C40476E0A41E5@Lenovo>

<023e01d1e5c8\$db0346e0\$9109d4a0\$@net>

<1287c65d-7793-2bc6-8598-b583c81541ae@kd5byb.net>

Message-ID: <c12580c7-09c7-91b7-a225-e2b0c5afce7c@ix.netcom.com>

Congratulations, sounds like a lot of work well done.

Micamold paper caps seem to have been used in place of some mica caps at a time when mica was in short supply. My AR-88 had some in places that originally had RCA-made micas. They were all bad. Polypropylene works fine to replace them. Note that Solar made similar flat paper caps that look superficially like micas. The AR-88 also had a couple of these, also bad. Micamold and Solar are puzzles to me; Solar advertised pretty heavily in the 1940s and then suddenly disappeared. I

have found few ads from Micamold and also don't know what happened to them. My 1947 "Radio's Master" catalog has a reserved section for Solar but no catalog information so evidently whatever happened to them happened around early 1947. If anyone knows more I would be glad to hear about it.

--

Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From 1oldlens1 at ix.netcom.com Sun Jul 24 18:09:09 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sun, 24 Jul 2016 15:09:09 -0700
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <CA01yix0QvKsiBkpH2Krfy60C5Q986=DNM5SV3Q0Athzb1ptsgg@mail.gmail.com>
References: <49d1e2.6441344c.44c553e3@cs.com>
<ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>
<CA01yix0QvKsiBkpH2Krfy60C5Q986=DNM5SV3Q0Athzb1ptsgg@mail.gmail.com>
Message-ID: <9c4e2478-e556-366e-4723-eeacbab88dc1@ix.netcom.com>

There are a couple of different types of bathtubs. The ones in the SP-600 are electrolytic in a potting compound. I have had to replace a couple and when I do a long overdue recapping of one of my receivers will replace all. I don't try to restuff them, I just mount new ones on terminal strips. The other kind are oil filled paper caps. My AR-88 was full of them, all leaking oil through the terminals. They actually worked fairly well but I replaced all with plastic caps again mounted on terminal strips. In a few places I put the new caps in point to point. I suppose this is not "authentic" but the receiver works extremely well. I also used plastic to replace the Micamold and Solar flat paper caps in the RF compartment. These were specified to be mica caps in the original run but during WW-2 mica became hard to obtain. The originals were RCA made and if the patent I found is the right one they were stacked foil and mica rather than silver plated mica. The couple that were in the receiver are still good. The silvered mica caps in the AR-88 and the temperature compensating ceramics are also still fine.

One of my SP-600's has all ceramic caps except for the electrolytics (and some silver mica). The electrolytics are starting to go. I have had to replace a couple of silver mica caps, two were 51 pF in the BFO and one was on one of the RF oscillator modules. Otherwise they seem pretty reliable. In almost every case where I've tested paper caps of any type they show degraded performance and often pass substantial DC. If you have a set full of them there will be some degradation of the performance even if the caps are not awful. Its worth the effort to get rid of them. A number of the electrolytics in the SP-600 are in the AVC circuit and will cause all sorts of problems when

they go bad. The main filter cap can also cause problems other than hum. An exact replacement can be gotten from Hayseed Hamfest, not cheap but it will last forever.

On 7/24/2016 12:33 PM, Guido Santacana via BoatAnchors wrote:

> Bathtub types are dying too. I recently replaced all of them in my
> Hammarlund SP600JX and found most of them dead in the TCS receiver. The
> best thing to do with all these paper types is replacement. In a climate
> like mine this is something I don't think twice.

>

> 73s

>

> Guido

--

Richard Knoppow
1oldlens1 at ix.netcom.com
WB6KBL

From vilgotch at bigpond.net.au Mon Jul 25 19:02:56 2016
From: vilgotch at bigpond.net.au (Morris Odell)
Date: Tue, 26 Jul 2016 09:02:56 +1000
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <9c4e2478-e556-366e-4723-eeacbab88dc1@ix.netcom.com>
References: <49d1e2.6441344c.44c553e3@cs.com>
<ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>
<CA01yix0QvKsiBkpH2Krfy60C5Q986=DNM5SV3Q0Athzb1ptsgg@mail.gmail.com>
<9c4e2478-e556-366e-4723-eeacbab88dc1@ix.netcom.com>
Message-ID: <0CAB2C141D924553A2DBA499E0B7483E@LGLaptop>

> There are a couple of different types of bathtubs.

I have restuffed bathtubs in several items including an AR-88 over the years, usually with polyester caps. Typically to restuff a cap I have drilled a couple of small holes in the bottom to drain any oil and then heated it up with a torch to unsolder the baseplate. Once I clean it out and replace the innards I don't put the base back, just bolt it back on and it still looks original. However I do have doubts about the integrity of the terminal bushes. They often look pretty rough and heating the can can't be good for them. I've not found any that leaked electrically after the treatment but do worry about them. Has anyone known bathtubs that failed because of the terminal bushes rather than the actual cap?

73, Morris

From kd5byb at kd5byb.net Mon Jul 25 19:21:35 2016
From: kd5byb at kd5byb.net (Ben Hall)
Date: Mon, 25 Jul 2016 18:21:35 -0500
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <0CAB2C141D924553A2DBA499E0B7483E@LGLaptop>
References: <49d1e2.6441344c.44c553e3@cs.com>
<ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>
<CA01yix0QvKsiBkpH2Krfy60C5Q986=DNM5SV3Q0Athzb1ptsgg@mail.gmail.com>
<9c4e2478-e556-366e-4723-eeacbab88dc1@ix.netcom.com>
<0CAB2C141D924553A2DBA499E0B7483E@LGLaptop>
Message-ID: <0cb8fa53-1ea3-0c94-2a99-8ecd64ddaa3a@kd5byb.net>

On 7/25/2016 6:02 PM, Morris Odell via BoatAnchors wrote:

> However I do have doubts about the
> integrity of the terminal bushes. They often look pretty rough and
> heating the can can't be good for them. I've not found any that leaked
> electrically after the treatment but do worry about them. Has anyone
> known bathtubs that failed because of the terminal bushes rather than
> the actual cap?

I've done a hand-full of metal bathtubs over the past few years. (for BC-229's, RU/GF series receivers, and other Navy radios for on-top-of-chassis use. for under-chassis, terminal strips.)

Instead of heating them, I used a very thin-kerf Zona-brand saw to slice the bottom off before restuffing with poly caps. A little epoxy then reattaches the sawed-off bottom. Hard to tell they've received this treatment. For sure, the leakage was in the "guts" and not in the terminals, as they have as near-zero leakage as I can measure when put back together.

For sets where aesthetic appearance isn't important, I've made little PCB's with staked-in terminals to mimic the original terminals. They have holes to match the original mounting holes and secure with screws. They also have traces and holes for the poly caps. They are a pain to make, as I'm doing the toner-transfer PCB method and cut them out by hand. I was going to have a big batch made, but got sidetracked. (I have so many sidetracks I can't tell where the main line is anymore, ha!)

The few I tried to take apart with a torch looked really rough! Some of them had the terminals fall off. :(

thanks,
ben

From vilgotch at bigpond.net.au Mon Jul 25 20:18:02 2016
From: vilgotch at bigpond.net.au (Morris Odell)
Date: Tue, 26 Jul 2016 10:18:02 +1000
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <0cb8fa53-1ea3-0c94-2a99-8ecd64ddaa3a@kd5byb.net>
References: <49d1e2.6441344c.44c553e3@cs.com>
<ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>
<CA01yix0QvKsiBkpH2Krfy60C5Q986=DNM5SV3Q0Athzb1ptsgg@mail.gmail.com>
<9c4e2478-e556-366e-4723-eeacbab88dc1@ix.netcom.com>
<0CAB2C141D924553A2DBA499E0B7483E@LGLaptop>
<0cb8fa53-1ea3-0c94-2a99-8ecd64ddaa3a@kd5byb.net>
Message-ID: <6407F1C194F340BA8E2F9136F8408D23@LGLaptop>

> Instead of heating them, I used a very thin-kerf Zona-brand saw to slice
> the bottom off before restuffing with poly caps.

Not a bad idea, the Dremel will be just the tool for that.

> For sets where aesthetic appearance isn't important, I've made little
> PCB's with staked-in terminals to mimic the original terminals.

That's real dedication - I would just install a couple of tagstrips.

73, Morris

From 1oldlens1 at ix.netcom.com Mon Jul 25 16:00:15 2016
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Mon, 25 Jul 2016 13:00:15 -0700
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <97BACD4C-8EEB-4BB1-9EC8-EB22855E13E0@gmail.com>
References: <49d1e2.6441344c.44c553e3@cs.com>
<ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>
<CA01yix0QvKsiBkpH2Krfy60C5Q986=DNM5SV3Q0Athzb1ptsgg@mail.gmail.com>
<9c4e2478-e556-366e-4723-eeacbab88dc1@ix.netcom.com>
<97BACD4C-8EEB-4BB1-9EC8-EB22855E13E0@gmail.com>
Message-ID: <3eaacec2-43b1-da70-f24d-57dd78bf0303@ix.netcom.com>

I had to "build" a silver mica for one of the oscillator padders in one of my SP-600s. It had the typical "warbling" effect of an unstable silver mica. I think new ones do not have this problem. The others were both 51pF in the BF0 of two receivers, both jumped after warming up. For the most part silver mica caps are reliable but some get unstable. Evidently the silver plating can oxidize and the oxidation migrates around the edges of the plates. Some also develop whiskers of silver. This may be the same phenomenon. I think it is from moisture getting in. I have not seen a survey of cap types that develop the

problem. Old silver micas were mostly in molded Bakelite cases, which can be penetrated by moisture, newer ones are in dipped epoxy cases which I think are impervious, or at least much more resistant to moisture. They certainly should not be shotgunned. The electrolytics in the SP-600 seem to have been very long lived but these receivers are getting on to sixty or more years old so some failures are not surprising.

Both of mine had been subject to some plate bending of the main tuning cap. I was able to get a replacement for one and will see if I can straighten out the other. The plates should NEVER be bent even though they are slotted they were not meant to be adjusted that way. It is important that the stators be exactly centered in the rotor. The stators are held in place with clamps and can move a little with time. Its not difficult to center the stators and does no damage to the cap. There is actually a web site telling people how to bend the plates: DON'T do it. These are very good receivers but I think a lot of them are sick and need some TLC.

On 7/25/2016 12:37 PM, Guido Santacana wrote:

> Yes, I remember that the replaced bathtubs in the SP600 were all electrolytics and all bad. The symptom was mainly a marginal AVC. Silvered micas are just starting to fail. My worst case was the REP troop entertainment receiver in which all but one mica was good. The values were very odd and had to be approximated. Remember when Fair used to offer NOS bathtubs? I kept a bunch of those until a few years ago.

>

> Best 73s

>

> Guido

>

> Guido Santacana KP4FAR

>

--

Richard Knoppow

1oldlens1 at ix.netcom.com

WB6KBL

From gsantacana at gmail.com Mon Jul 25 15:37:24 2016

From: gsantacana at gmail.com (Guido Santacana)

Date: Mon, 25 Jul 2016 15:37:24 -0400

Subject: [BoatAnchors] R390A revival. Bumble bees in the IF

In-Reply-To: <9c4e2478-e556-366e-4723-eeacbab88dc1@ix.netcom.com>

References: <49d1e2.6441344c.44c553e3@cs.com>

<ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>

<CA01yix0QvKsiBkpH2Krfy60C5Q986=DNM5SV3Q0Athzb1ptsgg@mail.gmail.com>

<9c4e2478-e556-366e-4723-eeacbab88dc1@ix.netcom.com>

Message-ID: <97BACD4C-8EEB-4BB1-9EC8-EB22855E13E0@gmail.com>

Yes, I remember that the replaced bathtubs in the SP600 were all electrolytics and all bad. The symptom was mainly a marginal AVC. Silvered micas are just starting to fail. My worst case was the REP troop entertainment receiver in which all but one mica was good. The values were very odd and had to be approximated. Remember when Fair used to offer NOS bathtubs? I kept a bunch of those until a few years ago.

Best 73s

Guido

Guido Santacana KP4FAR

From gsantacana at gmail.com Mon Jul 25 18:32:11 2016
From: gsantacana at gmail.com (Guido Santacana)
Date: Mon, 25 Jul 2016 18:32:11 -0400
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <3eaacec2-43b1-da70-f24d-57dd78bf0303@ix.netcom.com>
References: <49d1e2.6441344c.44c553e3@cs.com>
<ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>
<CA01yix0QvKsiBkpH2Krfy60C5Q986=DNM5SV3Q0Athzb1ptsgg@mail.gmail.com>
<9c4e2478-e556-366e-4723-eeacbab88dc1@ix.netcom.com>
<97BACD4C-8EEB-4BB1-9EC8-EB22855E13E0@gmail.com>
<3eaacec2-43b1-da70-f24d-57dd78bf0303@ix.netcom.com>
Message-ID: <A7508598-2E09-4BE5-B6AD-F3DCE4A19661@gmail.com>

Unless they are making contact with stator plates, I never touch tuning cap plates at all. My SP600 has been here for 37 years. Most of the caps are ceramics so the replacements have been electrolytics and some resistors. There was some oscillation in one of the bands but after a goog Deoxit treatment of the tuning mechanism it went away. It went through a good cleaning and realignment when the electrolytics were replaced about two years ago.

New silver micas will probably last much longer than the old ones. The mica caps that I could do without are those integrated into the IF cans and used extensively by Hammarlund in their more modern HQ series. These caps do suffer from silver oxide migration and replacing them is a real headache that requires surgery in the IF can. I remember that my first BA troubleshooting success was a bad mica coupling cap in a TCS receiver, that was 40 years ago. I hope that after the recap and cleanup this R390A fires up and no micas give me a surprise. Right now as I wait for the new caps I am fixing a portable Firestone tube radio with a similar tube setup as the Zenith Transoceanic. This is for a friend of mine. Here I found two bad silver micas and of course replaced all paper caps and the filter electrolytic and replaced the selenium rectifier with a diode. Not an easy job in a cramped chassis. I never liked these portables.

73s

Guido

Guido Santacana KP4FAR

From gumbear at pacbell.net Mon Jul 25 22:14:23 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Mon, 25 Jul 2016 19:14:23 -0700
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <0cb8fa53-1ea3-0c94-2a99-8ecd64ddaa3a@kd5byb.net>
References: <49d1e2.6441344c.44c553e3@cs.com>
<ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>
<CA01yix0QvKsiBkpH2Krfy60C5Q986=DNM5SV3Q0Athzb1ptsgg@mail.gmail.com>
<9c4e2478-e556-366e-4723-eeacbab88dc1@ix.netcom.com>
<0CAB2C141D924553A2DBA499E0B7483E@LGLaptop>
<0cb8fa53-1ea3-0c94-2a99-8ecd64ddaa3a@kd5byb.net>
Message-ID: <3E4D82842820424680D0A8FDA89032D8@Lenovo>

> The few I tried to take apart with a torch looked really rough!
> Some of
them had the terminals fall off. :(

That's been my experience too, Ben. The terminals made of a rubber like stuff don't survive the blow torch or 250 watt iron. I've often thought of investing in miniature sheet metal tools. A mini shear and mini break. Then I could make bathtub substitutes of any size and shape. The terminals would be brass screws through fiber shoulder washers. But alas, some dreams die in the breech.

Arden Allen
KB6NAX

He who is cruel to animals becomes
hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.
?Immanuel Kant

From kd5byb at kd5byb.net Tue Jul 26 19:05:40 2016
From: kd5byb at kd5byb.net (Ben Hall)
Date: Tue, 26 Jul 2016 18:05:40 -0500
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <6407F1C194F340BA8E2F9136F8408D23@LGLaptop>
References: <49d1e2.6441344c.44c553e3@cs.com>

<ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>
<CA01yix0QvKsiBkpH2Krfy60C5Q986=DNM5SV3Q0Athzb1ptsgg@mail.gmail.com>
<9c4e2478-e556-366e-4723-eeacbab88dc1@ix.netcom.com>
<0CAB2C141D924553A2DBA499E0B7483E@LGLaptop>
<0cb8fa53-1ea3-0c94-2a99-8ecd64ddaa3a@kd5byb.net>
<6407F1C194F340BA8E2F9136F8408D23@LGLaptop>
Message-ID: <261a0eb4-98ff-d629-7f40-2fe8d8c953ae@kd5byb.net>

On 7/25/2016 7:18 PM, Morris Odell via BoatAnchors wrote:
>> Instead of heating them, I used a very thin-kerf Zona-brand saw to
>> slice the bottom off before restuffing with poly caps.
> Not a bad idea, the Dremel will be just the tool for that.

Hi Morris and list,

Dremel makes a table that will accept a Dremel moto-tool. Almost like a router table, where the Dremel motor / router is below the table and the cutter sticks up thru the table. You can adjust the cutting height this way. It also has an adjustable fence, where you can adjust the depth of cut. With a thin-kerf circle saw blade, it could be ultimate replacement for my manual Zona saw method.

I want to say a fellow list member was going to buy one and try it - I wonder if he did and can report on the results?

>> For sets where aesthetic appearance isn't important, I've made little
>> PCB's with staked-in terminals to mimic the original terminals.
>
> That's real dedication - I would just install a couple of tagstrips.

It was more a case of me being crazy. ;) I had one set that was so nice that I didn't want to drill extra holes for terminal strips. Thinking about it, especially in reference to other posts regarding the future of our gear, maybe it's totally silly. On the other hand, it made me happy, so perhaps that's all that matters? ;)

thanks much and 73,
ben

From gumbear at pacbell.net Tue Jul 26 19:52:29 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Tue, 26 Jul 2016 16:52:29 -0700
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <3eaacec2-43b1-da70-f24d-57dd78bf0303@ix.netcom.com>
References: <49d1e2.6441344c.44c553e3@cs.com>
<ea6e421a-5b22-bad1-cb7c-2a5dcc1f2142@earthlink.net>
<CA01yix0QvKsiBkpH2Krfy60C5Q986=DNM5SV3Q0Athzb1ptsgg@mail.gmail.com>

<9c4e2478-e556-366e-4723-eeacbab88dc1@ix.netcom.com>
<97BACD4C-8EEB-4BB1-9EC8-EB22855E13E0@gmail.com>
<3eaacec2-43b1-da70-f24d-57dd78bf0303@ix.netcom.com>
Message-ID: <31DC6D350C51480F9EB19C457C35B76D@Lenovo>

> I think it is from moisture getting in.

Yes, moisture is the killer of silver mica capacitors. The mixture of metals is subject to galvanic corrosion in the presence of moisture. Silver dendrites (in some forms known as "whiskers") form conductive tracks between opposing plates. The more common way silver mica caps fail is loss of silver plating where the terminals are crimped, causing erratic series resistance or complete open circuit. Both molded and resin dipped capacitors have a weakness that permits ingress of moisture. The molding compound or resin around the copper leads is known as the "meniscus" because of how the insulation forms around the lead. Flexing and heating of the lead causes the meniscus to be damaged which causes loss of hermetic seal.

Arden Allen
KB6NAX

He who is cruel to animals becomes
hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.
?Immanuel Kant

From gumbear at pacbell.net Tue Jul 26 23:36:19 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Tue, 26 Jul 2016 20:36:19 -0700
Subject: [BoatAnchors] [ARC5] [Milsurplus] "Oldtimer bitching"? Or
Timely Warning? You Decide.
In-Reply-To: <15629e980be-3e48-10ab3@webprd-a65.mail.aol.com>
References: <15629e980be-3e48-10ab3@webprd-a65.mail.aol.com>
Message-ID: <09F88484E0974FA38E8B5ACE62F4EF19@Lenovo>

> Seems like we'd have a chance of interesting young folks if we figured out how to present our passions to them as new (to them) experiences instead of as old technology. If they think something is an "insider" thing, it might be more interesting...at least for long enough to introduce them to it. They may not pick it up as a hobby right away but seeds might be planted that'll bloom into more later on. I think the guys showing up at steampunk meets & conventions with teletypes & stuff may be doing a good job introducing youth to vintage tech. If you are a member of a ham radio or antique radio club holding classes in introduction to radio, how to get a license, and code practice is the way to hook

the young-uns. Mixing in radio history and show time of vintage ham and military gear with the promise of help getting started will make them radio lifers. How did you get started? If it worked then it will work now. Be a new age Elmer!

Arden Allen

KB6NAX

He who is cruel to animals becomes
hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.

?Immanuel Kant

From WA5CAB at cs.com Wed Jul 27 12:45:40 2016

From: WA5CAB at cs.com (WA5CAB at cs.com)

Date: Wed, 27 Jul 2016 12:45:40 -0400

Subject: [BoatAnchors] R390A revival. Bumble bees in the IF

Message-ID: <5c8d.6c2494c4.44ca3f33@cs.com>

Orange Drop capacitors (and their purple generic cousins) have the same problem, particularly when using them to replace original axial lead capacitors. This is one reason that I don't use them unless they are mounted on a PC

board with properly spaced holes.

Robert Downs - Houston

wa5cab dot com (Web Store)

MVPA 9480

In a message dated 07/27/2016 10:20:17 AM Central Daylight Time,
boatanchors at theporch.com writes:

> Both molded and resin dipped
> capacitors have a weakness that permits ingress of moisture. The molding
> compound or resin around the copper leads is known as the "meniscus"
> because
> of how the insulation forms around the lead. Flexing and heating of the
> lead causes the meniscus to be damaged which causes loss of hermetic seal.

From dave at horsfall.org Wed Jul 27 17:53:04 2016

From: dave at horsfall.org (Dave Horsfall)

Date: Thu, 28 Jul 2016 07:53:04 +1000 (EST)

Subject: [BoatAnchors] [ARC5] [Milsurplus] "Oldtimer bitching"? Or
Timely Warning? You Decide.

In-Reply-To: <09F88484E0974FA38E8B5ACE62F4EF19@Lenovo>

References: <15629e980be-3e48-10ab3@webprd-a65.mail.aol.com>

<09F88484E0974FA38E8B5ACE62F4EF19@Lenovo>

Message-ID: <alpine.BSF.2.11.1607280748270.27340@aneurin.horsfall.org>

On Tue, 26 Jul 2016, Arden Allen via BoatAnchors wrote:

> If you are a member of a ham radio or antique radio club holding classes
> in introduction to radio, how to get a license, and code practice is the
> way to hook the young-uns. Mixing in radio history and show time of
> vintage ham and military gear with the promise of help getting started
> will make them radio lifers. How did you get started? If it worked
> then it will work now. Be a new age Elmer!

And if you really want to get the young'uns in, either drop the CW altogether or make it a secret code (how to talk in private, so your big sister or your young brother can't listen!).

--

Dave Horsfall DTM (VK2KFU) "Those who don't understand security will suffer."

From gsantacana at gmail.com Wed Jul 27 14:06:00 2016
From: gsantacana at gmail.com (Guido Santacana)
Date: Wed, 27 Jul 2016 14:06:00 -0400
Subject: [BoatAnchors] R390A revival. Bumble bees in the IF
In-Reply-To: <5c8d.6c2494c4.44ca3f33@cs.com>
References: <5c8d.6c2494c4.44ca3f33@cs.com>
Message-ID: <74617661-6200-48A0-8D48-DDBB73337D17@gmail.com>

Orange drops were designed for early circuit boards. Using them to replace axial lead caps has always been difficult in cramped spaces like the R390A IF deck. I remember using an orange drop for C553 and then axial lead polypropylene for the rest.

73s

Guido

Guido Santacana KP4FAR

From gumbear at pacbell.net Wed Jul 27 18:01:53 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Wed, 27 Jul 2016 15:01:53 -0700
Subject: [BoatAnchors] [ARC5] Getting The Young Interested...WAS
"Oldtimer bitching"? Or Timely Warning? You Decide.
In-Reply-To: <878071519.6734706.1469649732025.JavaMail.yahoo@mail.yahoo.com>
References:
<A60DE74923E94FA5B4FC1073BF4E9C8B@DaddyPC><15629e980be-3e48-10ab3@webprd-a65.mail.aol.com>
<878071519.6734706.1469649732025.JavaMail.yahoo@mail.yahoo.com>
Message-ID: <A54A444B8D134166BFC6E8B1AC1D31CF@Lenovo>

> Well, with all 3 local clubs where I am a member or on the board, I have brought up the idea that if you want the middle-age guys to get onboard you have to stop scheduling stuff on Saturdays. Middle age men have kids and youth sports happens on Saturdays. Saturday hamfests are "gray hair" hamfests--because all the other age groups are BUSY living life. Locally, the idea of Sunday radio activities is a non-starter. The gray haired set want Sundays free for church, church activities and drinking on the porch with their gray-haired relatives. And since all the people running the clubs are seniors, the clubs do everything on Saturdays. It's a self-perpetuating problem.

The archetypical American family is where you need to aim your resources. Forget about the middle agers, it's the sprouts you have to go after by joining their traditional pursuits ? after school activities, sports, special events, church, and whatever clusters they are sucked into of wasted opportunity. If you are one of ?em there's a chance they will be attracted to the new and fantastic by your example.

Yes, radio was fantastic when I was a youth. Like when I tried to hear Sputnik on my Heathkit AR3. Radio has mostly abandoned me. Now the fantasia should be the wonders of early science and technology. Get them excited. Who knows, maybe a dad or mom will want in too.

Arden Allen
KB6NAX

He who is cruel to animals becomes
hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.
?Immanuel Kant

From gumbear at pacbell.net Wed Jul 27 18:08:32 2016
From: gumbear at pacbell.net (Arden Allen)
Date: Wed, 27 Jul 2016 15:08:32 -0700
Subject: [BoatAnchors] [ARC5] [Milsurplus] "Oldtimer bitching"? Or
Timely Warning? You Decide.
In-Reply-To: <alpine.BSF.2.11.1607280748270.27340@aneurin.horsfall.org>
References: <15629e980be-3e48-10ab3@webprd-a65.mail.aol.com>

<09F88484E0974FA38E8B5ACE62F4EF19@Lenovo>
<alpine.BSF.2.11.1607280748270.27340@aneurin.horsfall.org>
Message-ID: <39342F771F7540D998C5E8A98BCEE18E@Lenovo>

> And if you really want to get the young'uns in, either drop the CW altogether or make it a secret code (how to talk in private, so your big sister or your young brother can't listen!).

I had not problem with privacy learning code. I just got complaints about the noise. The kids of today on their cell phones don't want privacy, they want acknowledgement aided by the quasi-pornographic nature of the idiom.

Arden Allen
KB6NAX

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hard also in his dealings with men.
We can judge the heart of a man by
his treatment of animals.
?Immanuel Kant

From gsantacana at gmail.com Sun Jul 31 10:40:30 2016
From: gsantacana at gmail.com (Guido Santacana)
Date: Sun, 31 Jul 2016 10:40:30 -0400
Subject: [BoatAnchors] R390A Revival Continues
Message-ID: <AAC17AC4-16D7-4B89-AE61-1AA0F91011BE@gmail.com>

At this time the only module that remains in the main chassis is the VF0. The IF and Audio modules have been recapped and yesterday the RF module went through the same process. I found three brown bumble bee caps (two .1uF and one .03uF), all cracked. One of the .1uF caps was heavily cracked. All resistors checked within range and no coils were found open. All tubes except the 6AK5 in the crystal oscillator subunit were ok. Now I am going through the cleaning process of this subchassis including cleaning and lubing the gears. It's really dirty. Next is the VF0 check, chassis cleaning, reassembly, a prayer and the smoke test.

73s

Guido

Guido Santacana KP4FAR

Sent from my iPad

From w4uoc at aol.com Sun Jul 31 19:41:20 2016
From: w4uoc at aol.com (W4UOC)

Date: Sun, 31 Jul 2016 19:41:20 -0400
Subject: [BoatAnchors] Restoring Elmac AF-68
Message-ID: <7E589E69-BB0E-4826-838E-E81701E4130C@aol.com>

I'm restoring a Elmac AF-68, PMR 8 and in search of a Elmac 1070 or 1071 AC power supply.

Tom Koch - W4UOC
W4uoc at aol.com

Sent from my iPad

From w7qho at aol.com Sun Jul 31 20:14:50 2016
From: w7qho at aol.com (Dennis DuValll)
Date: Sun, 31 Jul 2016 17:14:50 -0700
Subject: [BoatAnchors] Restoring Elmac AF-68
In-Reply-To: <7E589E69-BB0E-4826-838E-E81701E4130C@aol.com>
References: <7E589E69-BB0E-4826-838E-E81701E4130C@aol.com>
Message-ID: <4D2D4A4B-462A-43F3-BF73-18A747D14E44@aol.com>

Tom,

Power requirements for these are modest. Would recommend building up your own supply until an original becomes available. I did this for my AF-67 and AF-68 30 years ago and it worked so well
I never got around to looking for an original. Unit still going strong as I write this.

Dennis D. W7QH0
Glendale, CA

> On Jul 31, 2016, at 4:41 PM, W4UOC via BoatAnchors <boatanchors at theporch.com> wrote:

>

> I'm restoring a Elmac AF-68, PMR 8 and in search of a Elmac 1070 or 1071 AC power supply.

>

> Tom Koch - W4UOC

> W4uoc at aol.com

>

>
> Sent from my iPad
>
> -----
> BoatAnchors mailing list
> BoatAnchors at theporch.com
> <https://minime.theporch.com/mailman/listinfo/boatanchors>

From haney.howell at gmail.com Sun Jul 31 18:03:21 2016
From: haney.howell at gmail.com (Haney Howell)
Date: Sun, 31 Jul 2016 18:03:21 -0400
Subject: [BoatAnchors] [ARC5] [Milsurplus] "Oldtimer bitching"? Or
Timely Warning? You Decide.
In-Reply-To: <39342F771F7540D998C5E8A98BCEE18E@Lenovo>
References: <15629e980be-3e48-10ab3@webprd-a65.mail.aol.com>
<09F88484E0974FA38E8B5ACE62F4EF19@Lenovo>
<alpine.BSF.2.11.1607280748270.27340@aneurin.horsfall.org>
<39342F771F7540D998C5E8A98BCEE18E@Lenovo>
Message-ID: <449DB4F2-D4C6-4C84-BB09-50332377EEB3@gmail.com>

I recently retired from teaching mass communication at our local university. I
Elmered several students in the final years who were also IT freaks. They loved
the code and the hands on aspects of ham radio. They're now both Extras and one
recently burned me up on CW using a keyer. Fun stuff. The other recently took
home a spare DX60 I had on the shelf. He'd used my DX60/Drake 2B and is now
searching for the Drake.

Haney
k2xn

On Jul 27, 2016, at 6:08 PM, Arden Allen <gumbear@pacbell.net> wrote:

>> And if you really want to get the young'uns in, either drop the CW
> altogether or make it a secret code (how to talk in private, so your big
> sister or your young brother can't listen!).
>
> I had not problem with privacy learning code. I just got complaints about the
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> Arden Allen
> KB6NAX
>
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> We can judge the heart of a man by
> his treatment of animals.

> ?Immanuel Kant
>

From wb3fau55 at neo.rr.com Sun Jul 31 18:46:46 2016
From: wb3fau55 at neo.rr.com (wb3fau55 at neo.rr.com)
Date: Sun, 31 Jul 2016 18:46:46 -0400
Subject: [BoatAnchors] R-390A
Message-ID: <20160731224646.DL7TI.221945.root@cdptpa-web17>

Guido and the gang-

my 390A has issues in the RF section, as in no receive below 8mc. A problem I found is a bad resistor R305, connected to the screen of the RF amp. It is a 2.2k.

It reads about 143 ohms. So am hoping this is making trouble in the 1st [17mc] osc. and 1st mixer stages.

Guido, I replaced the 3 caps you mentioned. Mine were in good condx, but I changed them as matter of good sense.

I also found a missing 100pf cap at the RF transformer T207.

I will keep testing parts, I have removed the RF section 2 times, I do not want to do it again. As you know, you got to take it all apart to get the RF deck out and I do not have extender cables to run the Rf deck out of the main frame.

I am trying to finish this project, it was a hamfest junker/parts rig.
73s Russ.